Sanitized Maste Copy

[redacted]

146

STATEMENT OF SECRETARY OF DEFENSE ROBERT S. McNAMARA
BEFORE A JOINT SESSION OF
THE SENATE ARMED SERVICES COMMITTEE AND
THE SENATE SUBCOMMITTEE ON DEPARTMENT OF DEFENSE APPROPRIATIONS
ON THE FISCAL YEAR 1966-70 DEFENSE PROGRAM AND 1966 DEFENSE BUDGET

B

RESTRICTED DATA
Atomic Energy Act, 1954
As Amended

DOWNGRADED AT 12 YEAR
INTERVALS; NOT AUTOMATICALLY
DECLASSIFIED. DOD DIR 5200.10

COPY ______

FOI CASE NO. 81-FOI-585
Document 4 of 7 Documents

Excised Under the Provisions of (The Freedom of Information Act) 5USC552
(b) 1,3

[redacted]

[redacted]

TABLE OF CONTENTS

[redacted]

PAGE NO.

PAGE NO.

[redacted]

PAGE NO.

[redacted]

PAGE NO.

[redacted]

PAGE NO.

[redacted]

[redacted]

PAGE NO.

[redacted]

TABLES

[redacted]

STATEMENT OF SECRETARY OF DEFENSE ROBERT S. McNAMARA
BEFORE A JOINT SESSION OF
THE SENATE ARMED SERVICES COMMITTEE AND
THE SENATE SUBCOMMITTEE ON DEPARTMENT OF DEFENSE APPROPRIATIONS
ON THE FISCAL YEAR 1966-70 DEFENSE PROGRAM AND 1966 DEFENSE BUDGET

Mr. Chairman and Members of the Committee:

It is again my privilege to present to you our Defense program projections for the next five years and our budget proposals for the coming fiscal year. My prepared statement is arranged essentially in the same manner as in past years except that I have grouped the three major programs relating to general nuclear war -- Strategic Offensive Forces, Strategic Defensive Forces and Civil Defense -- into one chapter, "Strategic Offensive and Defensive Forces." Attached to each copy of the statement is a set of related tables which you may wish to follow as we proceed through the discussion.

General Wheeler, who appears here for the first time as Chairman of the Joint Chiefs of Staff, will present his statement following the completion of my presentation and he will, of course, participate with me in answering your questions.

As I pointed out in previous years, the further into the future we project our programs, the more provisional they should be considered. Changes inevitably have to be made as we move forward in time and entirely new projects, whose need could not be clearly foreseen, have to be added. Such has been the case since I appeared before this Committee last year and I have attempted in my statement to note the more important changes and explain why they were made.

Again, I would like to remind you that I will be discussing costs in terms of "Total Obligational Authority" (TOA), i.e., the full cost of an annual increment of a program regardless of the year in which the funds are authorized, appropriated or expended. These costs will differ in many cases from the amounts requested for new authorization and appropriation, especially in the procurement accounts where certain prior year funds are available to finance FY 1966 programs. Moreover, most of my discussion will deal with the total cost of the program, including the directly attributable costs of military personnel and operation and maintenance, as well as procurement, research and development and military construction.

[redacted]

I. INTRODUCTION

A. APPROACH TO THE FY 1966-70 PROGRAM AND THE FY 1966 BUDGET

As I have reported to you before, when I took office in January 1961, President Kennedy gave me two general instructions:

1. Develop the military force structure necessary to support our foreign policy without regard to arbitrary budget ceilings.

2. Procure and operate this force at the lowest possible cost.

President Johnson has emphasized that these same basic principles should guide the development of the FY 1966-70 programs and the FY 1966 budget request.

Contrary to the impression which may have been gained from certain statements made by the new Soviet leaders last December, our Defense program and budget is based solely on our own national security requirements and is not related to the announced reductions in Soviet defense expenditures. Of course, in planning our own forces, we do take account of the size and character of the opposing forces. But, until we have independent evidence, acquired through our own sources, that reductions have actually been made, we do not reflect them in our intelligence estimates or take account of them in the formulation of our military programs.

The decline in our own Defense expenditures from a high of $51.2 billion in FY 1964 to an estimated $49.0 billion in FY 1966 simply reflects the substantial completion of the buildup started in 1961 and the results of our highly successful cost reduction program.

In developing the FY 1966-70 program and the FY 1966 budget, I have carefully reviewed all of the proposals originating from the Joint Chiefs of Staff, the military departments and other Defense agencies. This process began nearly a year ago, and through a step-by-step review of the 1966 and prior year programs, it was possible to reduce the FY 1966 budget request from about $56.5 billion in new obligational authority, as proposed by the Services and Defense agencies, to approximately $48.6 billion, a reduction of about $8 billion. Thus, as shown on Table 1, our FY 1966 request for new obligational authority is $1.2 billion less than the amount appropriated for the current fiscal year (including the proposed FY 1965 supplemental). Expenditures in FY 1965, currently estimated at $49.3 billion, will be about $1.9 billion

less than the amount estimated a year ago. FY 1966 expenditures are estimated at $49.0 billion, about one-third billion dollars less than now estimated for the current fiscal year. While our FY 1966 budget request does not include all of the forces or force modernizations recommended by the military departments and individual Service chiefs, the Joint Chiefs of Staff agree that the program supported by this budget will increase our overall combat effectiveness and will provide effective forces in a high state of readiness for the defense of the vital interests of the United States.

B. ASSESSMENT OF THE INTERNATIONAL SITUATION AS IT BEARS ON MILITARY POLICIES AND PROGRAMS

Although the change in the leadership of the Soviet Union and the detonation of a nuclear device by Communist China were two of the most widely noted developments on the international scene during the past year, a more fundamental though less heralded change has been taking place which, over the long run, could be of much greater significance to our national security. This is not to say that these two events were of small importance. Quite the contrary; they hold great potential consequences for the future of the world and I shall discuss each of them later in this section of the statement. But I believe that the gradual relaxation of the previously rigid bi-polarization of world power, which has been gaining momentum in recent years, could be of greater significance.

For many years after the last great war, the world scene was dominated by two giant power blocs, one a voluntary alliance of free nations led by the United States, and the other a conquered empire ruled by the Soviet Union. In the Free World alliance, the United States was the leading member because of the predominance of its economic and military power. In the Communist camp the Soviet Union was the undisputed ruler not only because of its predominant economic and military power but, also, because it controlled the international Communist apparatus and was willing to back it up with military force where necessary.

Some time in the last five or ten years this situation began to change. On the Free World side, the nations of Western Europe, as well as Japan in the Far East, began to get back on their feet politically and economically, and today, the United States is no longer the only important economic and political power. On the Communist side, the absolute control of the Soviet Union has been successfully challenged, and now not only Yugoslavia, but also China, Albania and, to a lesser extent other Communist nations of Eastern Europe, are following policies directed to their own national interests. Long frozen positions are

beginning to thaw and in the shifting currents of international affairs there will be new opportunities for us to enhance the security of the Free World and thereby our own security. But there will also be new problems which will have to be faced, particularly how best to maintain the unity of the Free World during this period of flux, while old positions, attitudes and relationships are being re-examined.

Further complicating the world situation is the relatively sudden emergence of some 50 new nations since the end of World War II. Many have but recently emerged from colonial status and possess little experience in self-government. Most of them are economically undeveloped and some have yet to achieve any sense of national cohesiveness among their heterogeneous populations.

It was difficult enough when there were two power centers competing for the ideological allegiance of these new nations. Now, with the internal cohesiveness of these power blocs weakening, particularly in the Communist camp, the situation is becoming far more complicated. With the world in such a state of flux and with so many nations striving to achieve positions of leadership or advantage, it is not surprising that our diplomacy has encountered difficulties and that the main lines of our foreign policy have been obscured by the constant flow of criticism and invective directed against them from so many quarters.

Yet our foreign policy has been remarkably consistent over the years. We, ourselves, have no territorial ambitions anywhere in the world and we insist that all nations respect the territorial integrity of their neighbors. We do not seek the economic exploitation of any nation. Indeed, since the end of World War II, we have given other nations more than $100 billion of our wealth and substance -- an effort unparalleled in the history of mankind. We do not seek to overthrow, overtly or covertly, the legitimate government of any nation and we are opposed to such attempts by others. In short, we seek a world in which each nation is free to develop in its own way, unmolested by its neighbors, free of the fear of armed attack from the more powerful nations.

Our effort in Viet Nam is fully consistent with these policies. As Secretary of State Rusk recently pointed out:

> "...We have military personnel in Southeast Asia ... because we feel that they are needed to assist South Viet Nam at the present time to maintain its security and independence. If South Viet Nam's neighbors would leave it alone, those military people could come home. We have no desire for any bases or permanent military presence in that area. We are interested in independence of states."

So, too, is our action in the Congo. We opposed Mr. Tshombe in the past because he defied the legitimate Government of the Congo. We support Mr. Tshombe now because he is the head of the legitimate Government of the Congo. We did not select Mr. Tshombe to head that Government; he was selected by Mr. Kasavubu, the President of that Nation. We participated with the Belgians, with the approval of the Congolese Government, in the rescue of innocent men, women and children of many nationalities and races who were being victimized and used as pawns by the rebels in their fight against the Government. We had tried to obtain the release of these hostages by negotiation with the rebels and when that failed, we had no alternative as a civilized nation with a high regard for human life, than to effect their rescue as best we could. Even so, many innocent people were wantonly slaughtered by the rebels.

Unfortunately, the Communist governments do not share our objectives. I do believe that, like their predecessors, the new leaders of the Soviet Union fully appreciate the perils of general nuclear war and the danger of local wars escalating into nuclear war. I also believe that the leaders of Communist China, too, are reluctant to challenge the full weight of our military power. But both the Soviet Union and Communist China continue to support what Mr. Khrushchev euphemistically called "wars of national liberation" or "popular revolts" which we know as covert armed aggression, insurrection and subversion. You may recall that Mr. Khrushchev considered this type of warfare the preferred method of armed aggression against the Free World because it was, in his view, the safest for the Soviet Union. Although the leaders of Communist China disagreed bitterly with Mr. Khrushchev on many policies, this one they fully support and enthusiastically implement.

It may be that as long as we maintain the kind of forces which would make global nuclear war and even local wars unprofitable for the Soviet Union and Communist China, we can deter them from starting such conflicts. But this still leaves us with the problem of covert armed aggressions, insurrections and subversion. As I pointed out to this Committee three years ago, to the extent we deter the Communists from initiating larger wars, we may anticipate even greater efforts on their part in so-called "wars of national liberation." The expansion of Communism is a cardinal tenet of their doctrine and in order to establish Communism in a new country, they must first destroy the existing government, if necessary, by force. And, it is only by force that the Communists have been able to extend their sway.

We must face up to the fact that the Communists have a distinct advantage over the democracies in this type of conflict. They are not inhibited by our ethical and moral standards -- political assassina-

[redacted]

tion, robbery, arson, subversion, bribery are all acceptable means to further their ends. They are quick to take advantage of any breakdown of law and order, of any resentment of people towards their government, or of any economic or natural disaster. They are masters of mass psychology and of propaganda, having had decades of experience in these fields. And, once they gain control, they eliminate their opponents simply by driving them out of the country or by literally killing them off until the population is completely intimidated.

We still have a long way to go in devising and implementing effective countermeasures against these techniques. For us, the task is an extremely difficult one. This is the kind of struggle which ultimately must be fought and won by the governments and peoples directly involved. It is not solely a military problem. It pervades every aspect of human endeavor and concern -- political, social, economic and ideological. We can help a besieged government with economic and military assistance, with training and administrative support and with advice and counsel; and we can discourage, with appropriate measures, overt military aggression against it. But, with all of our enormous economic and military power, we cannot provide to any other nation a strong, stable and effective government which can command the loyalty and support of its people. These things can be provided only by the peoples themselves and this is one limitation on our capability which we must all frankly recognize.

The road ahead will be difficult and continuing sacrifices will be required of our people, both in money and in lives. But the challenge must surely be met. If we fail to meet it here and now, we will inevitably have to confront it later under even more disadvantageous conditions. This is the clear lesson of history which we can ignore only at our peril. As I told this Committee three years ago, it is quite possible that in the decade of the sixties the decisive struggle between Communism and Freedom will take place in this arena.

But as worrisome and as difficult as these local conflicts and crises are, we do ourselves a grave disservice if we permit them to obscure the more fundamental and far reaching changes in our position in the world vis-a-vis the Soviet Union and Communist China. Local crises come and go. Each year brings with it a new crop which develops, peaks and subsides, leaving the basic situation essentially unchanged. In this regard, the situation today is probably no better or worse than it was at any time during the last decade.

In the longer range and much more critical struggle between the forces of Freedom and the forces of Communism, I believe there can be no question that our relative position has improved over the last

[redacted]

several years. And I believe it is fair to say that contributing to this improvement have been the policies and actions of the United States Government: the buildup of our military forces; our demonstrated determination to use them where our vital interests are at stake; our assistance to other free nations around the world; and our constant readiness to join in measures to promote the peace. To the extent that the Communist states are convinced that war is no longer a feasible method to extend the sway of their ideology, our safety is enhanced. To the extent that they are convinced that we will resist with force, if necessary, any encroachment to our vital interests around the world, the chances of war are diminished. To the extent we hold open the door to peace and disarmament, we provide an alternative to an arms race. To the extent that the Free World continues to demonstrate that a free society can provide a better life for the people than can a Communist society, the attraction of freedom will continue to exert an irresistible pull, not only on the uncommitted nations of the world, but on the people of the Communist nations themselves. In this longer range and much more fundamental struggle, the cause of freedom has definitely gained.

1. Strengths and Weaknesses of the Communist Bloc

As I noted earlier, the two outstanding events in the Communist world in 1964 were the change in the leadership of the Soviet Union and the detonation of a nuclear device by Communist China. The latter event had long been expected and might well have occurred two or more years earlier if Soviet cooperation had not been withdrawn. The former event was not anticipated and no doubt came as a surprise to Mr. Khrushchev as well as to the rest of the world.

The full implications of this change in leadership have yet to be revealed. At the moment the new leaders appear to be carrying water on both shoulders. They have resumed discussion with the Chinese Communists while at the same time they have reaffirmed support of coexistence with the West. And, indeed, they have indicated through diplomatic channels an interest in a further relaxation of tensions but have also announced their support of the rebels in the Congo and the insurrection in Viet Nam.

However, the cleavages between the Soviet Union and Communist China are so basic and so directly involve their respective national interests, even to the extent of territorial boundaries, that it is unlikely the change in leadership, in itself, will open the way to a reconciliation. The Chinese Communist demonstration of its nuclear progress will not help to make this reconciliation any easier since it was achieved in the face of opposition from the Soviet Union. But regardless of what actually evolves from the resumed discussions between the two countries, we can expect that both of them will be just as eager as ever to create

difficulties for the Free World whenever and wherever they can do so safely, without a "head on" collision with U.S. military power.

a. The Soviet Union

Although the faces have changed, the basic problems confronting the leadership of the Soviet Union remain very much the same. First and foremost is the problem of the allocation of resources. It is quite clear that the rate of Soviet economic growth has slowed significantly. On the basis of our latest intelligence, the average annual increase in their gross national product was only 3.7 percent in the 1962-64 period compared with 5.2 percent during 1959-61 and 7.2 percent during 1956-58. Industrial production rose an average of only 6.3 percent in 1962-64 compared with 7.2 percent in 1959-61 and 8.6 percent in 1956-58. New fixed investment rose an average of only 4.1 percent in 1962-64 compared with 8.5 percent in 1959-61 and 14.6 percent in 1956-58.

This slowdown, we believe, was caused in part by the increase in defense expenditures during the 1959-63 period, particularly for military machinery and equipment. In addition, the rapid growth of defense and space-related research and development apparently pre-empted the high grade scientific and technical manpower and other scarce resources that are so badly needed for the introduction of new techniques and new products into the civilian economy. Thus, the expansion of the civilian segment of the economy was slowed down even though Mr. Khrushchev was making a great effort to expand it.

It was this competition for resources which led Mr. Khrushchev a year ago to cut defense expenditures by about four percent and it was this same factor which caused the present leadership to make a further cut of about the same amount. The fact that our defense expenditures happen to be going down at the same time was simply seized upon by the Soviet leaders to justify their own reduction in defense expenditures. As I noted last year, while there is always the chance that the announced reduction in defense expenditures is simply a shift from one part of the Soviet budget to another, I believe some sort of reduction is actually being made in favor of other demands. What this reduction may mean in terms of military strength, procurement, etc., is not yet evident. The significant point is that the competing demands on the Soviet budget are still serving as a restraint on the size of the military forces.

Following the agricultural disaster of 1963 which forced the Soviets to import some $800 million of foodstuffs, last year produced a good (although not outstanding) harvest, giving a significant lift

[redacted]

to their economy. Despite the decreased need for imported agricultural products, total Soviet imports from the West continued to grow. To a considerable extent, these imports continued to be financed by gold sales which in 1964 rose to $500 million, 2½ times estimated Soviet annual production, further depleting their gold reserves which are now estimated at about $1.5 billion.

Soviet assistance to less developed countries in 1964 rose to about $1.1 billion compared with about $585 million in 1963, adding to the strain on the Soviet economy. Virtually all of the increase was in economic aid. New Soviet military aid commitments totaling about $340 million were extended to Afghanistan, Cambodia, India, Indonesia, Iraq and Yemen. Deliveries of military equipment totaled about $500 million, about the same as the previous year. There is evidence that the new leaders consider this burden too great. It is quite apparent that they are not meeting the requirements of Cuba and the UAR, two of their major clients, since both of these countries are in dire economic straits.

With respect to the future, the new leaders have been revising their economic programs, establishing more realistic goals, and promising significant increases in some consumer items. It seems clear that, at least for the present, this new leadership will continue the experimental, pragmatic attitude towards the management of the economy which Khrushchev displayed, a fact which can be seen from the recent extension of a modified profit concept to certain parts of Soviet industry. While the small liberalizing steps taken to date are hardly earth shaking in themselves, they are further evidence that the winds of change blow on both sides of the Iron Curtain.

Indeed, with respect to Eastern Europe, displays of independence and individuality are becoming increasingly more frequent occurrences. These Communist countries apparently no longer feel totally subjected to Soviet wishes and hegemony. In some cases, they are beginning to deviate noticeably from the traditional forms of communist economic organization and policy. Desires for independent relations with the West are particularly evident in Rumania and are beginning to show in Czechoslovakia and Hungary. Although the East European countries are acquiring more freedom of action in their relationships with the Soviet Union, they have avoided, as have the Soviets, actions which might lead to the use of force to maintain Soviet influence in the area, and they remain committed to membership in the Council of Mutual Economic Assistance (CEMA), and to the Warsaw Pact. The degree of integration of their economies into CEMA has not been as great or as successful as economic cooperation and integration have been in Western Europe.

[redacted]

Most of the Satellites have experienced some of the same economic problems as the Soviets, although Rumania and Bulgaria continued to maintain high rates of economic growth in 1964. Spreading interest among the Satellites in trade with the West resulted in the establishment of West German trade missions in several East European countries, in a sizeable British credit to Czechoslovakia, and in successful trade talks between the U.S. and Rumania during 1964. This trend, if properly exploited, could serve to weaken further the bonds of the East European nations with the Soviet Union, a development which is certainly to be desired by the West.

b. Communist China

China has continued a slow recovery from the depths reached when the "great leap" failed and Soviet help was curbed. She faces enormous problems in feeding her growing population. But given reasonable weather and rational policies there seems to be no reason why growth cannot continue.

The nuclear explosion last October provided confirmation that the Chinese Communist leaders are determined to produce modern armaments even though the cost be great. That the nuclear program was able to continue in spite of a very severe economic crisis is testimony to the determination of the Chinese to produce modern weapons. Although results may be slow in coming, there is no reason to suppose that the Chinese cannot in time produce medium range and even long range ballistic missile systems and arm them with thermonuclear warheads. Given the hostility the regime has shown, this is a most disturbing long term prospect.

Of greater importance in the nearer term is the political and psychological impact of the Chinese explosion. The Chinese Communist leaders are now trying to exploit that success as evidence of their technical, military and economic progress, much as Mr. Khrushchev exploited the Soviet space program and nuclear tests several years ago. They will certainly continue to support subversion and insurrection in Asia and attempt to gain control of revolutionary movements elsewhere in the world. But their armed forces, while well trained and led, are still outfitted by the standards of a decade or two ago. Much of their best equipment and weapons are still of Soviet origin and they are severely handicapped by the lack of Soviet sources of supply for spares and replacements. Little has been accomplished during the last three years in modernizing the air force. Unless there is a change in Soviet policy, it still appears doubtful that the Chinese Communists will deliberately initiate any major overt

aggression against their neighbors. Although they have long been the more militant of the two major Communist rivals, they have shown great caution when confronted with a determined display of military power.

2. Southeast Asia

Southeast Asia remains for us and for the entire Free World the area in which the struggle against Communist expansion is most acute, and, in that area, South Viet Nam is the keystone. Here, the North Vietnamese and Chinese Communists are putting into practice their theory that any non-Communist government of an emerging nation can be overthrown by externally supported, covert armed aggression, even when that government is backed by U.S. economic and military assistance. Indeed, the Chinese Communists have made South Viet Nam the decisive test of that theory and the outcome of this struggle could have grave consequences not only for the nations of Southeast Asia but for the future of the weaker and less stable nations everywhere in the world.

You may recall that one of the most bitterly contested issues between the Chinese Communists and Mr. Khrushchev was precisely the extent to which violence should be used in overthrowing non-Communist governments. In their letter to the Soviet Communist Party last June 14, the Chinese asserted:

> "Two-thirds of the world's population need to make revolution. ... Violent revolution is a universal law of proletarian revolution. To realize the transition to socialism, the proletariat must wage armed struggle, smash the old state machine, and establish the dictatorship of the proletariat."

A Communist success in South Viet Nam would be claimed as proof positive that the Chinese Communist position was correct and they will have made a giant step forward in the struggle for control of the world Communist movement. Such a success would also greatly increase the prestige of Communist China among the non-aligned nations and strengthen the position of their following everywhere. Thus, the stakes in South Viet Nam are far greater than the loss of one small country to Communism. It would be a serious setback to the cause of freedom throughout the world and would greatly complicate the task of preventing the spread of Communism at the very time when internal stresses within the Communist camp give promise of a more favorable turn in Soviet policies.

All of this is not to say that the loss of South Viet Nam to the Communists would automatically mean the loss of all of Southeast Asia. Yet, we may be certain that as soon as they had established their control over South Viet Nam, the Communists would press their

subversive operations in Laos and then in Thailand and we would have to face this same problem all over again in another place or permit them to have all of Southeast Asia by default. There is no reason not to suppose that the same tactics employed against South Viet Nam could not, in time, bring down the Government of Thailand. Thus, the choice is not simply whether to continue our efforts to keep South Viet Nam free and independent but, rather, whether to continue our struggle to halt Communist expansion in Asia. If the choice is the latter, as I believe it should be, we will be far better off facing the issue in South Viet Nam.

The present situation in South Viet Nam is grave but by no means hopeless. On the purely military side there remain a familiar series of problems -- the increasing Viet Cong capabilities, and the losses of combat experienced South Vietnamese small unit leaders and soldiers. However, the past year has also brought some encouraging developments. The regular South Vietnamese forces have been considerably strengthened by the continuing flow of new equipment and by the additional training and operational experience. In open battle, the Vietnamese forces have shown encouraging progress in operational planning, in reaction time, and in inter-Service coordination. The combat performance of regular troops continues to inspire confidence and towards year's end we noted improvements in recruiting and in active duty strength. The approximately 23,500 U.S. military personnel now in South Viet Nam continue to carry out their complex advisory and support missions, in headquarters and in the field, with the skill, dedication and bravery we have come to expect of our armed forces.

In the broader struggle between the Viet Cong and the Government of South Viet Nam for the loyalty of the people the picture, particularly in the countryside, is not as good. The deliberate retrenchment in the scope of the pacification effort which we described last year gave the Viet Cong virtually uncontested opportunities to move into some areas previously under government control. Infiltration of key personnel and replacements and supplies from North Viet Nam has continued and we believe intensified. The Viet Cong, for the most part, continue to avoid large unit engagements and emphasize a campaign of "hit and run" raids, harassment and terror. The main brunt of their effort continues to fall on the civilian population and on the irregular forces and police.

The reorganized pacification program did not progress as well as we had hoped a year ago, not only because of the strength of the Viet Cong opposition but also because of the instability of the Saigon government. This type of program requires a high degree of coordination between the civil and military efforts which can be provided only by the central government. Unfortunately the government's instability has revived all of the historic distrust and animosity among the Vietnamese -- among religious, secular and political groups, among

the peoples of the several regions, between the Vietnamese and the various ethnic minorities and between civil and military elements. And, understandably, the internal cohesiveness and effectiveness of the military was weakened by its greater political involvement. The year was marred not only by the January coup in which General Khanh displaced General Minh as commander-in-chief and head of the government, the August revival of Buddhist agitation and the abortive September coup but also by continuous competition for power on the part of the military, the civil authorities, the Buddhists and others which culminated in the December crisis. In late January 1965, the Armed Forces Council deposed Premier Tran Van Huong. Pending formation of a new Government, Phan Khac Suu is to continue as Chief of State and Nguyen Xuan Oanh is to be Acting Premier. But it is clear that this interim regime will be controlled by Gen. Nguyen Khanh and his military colleagues.

We have no desire to intrude into the domestic affairs of the South Vietnamese but we have made no secret of our belief that without national unity and a stable government, they will not be able to make effective use of their armed forces, their governmental agencies and the outside support they receive. We recognize the great strains under which the leadership of South Viet Nam must labor after some 20 years of unremittant struggle and we are doing our best to understand and help them. But without an effective government in Saigon, we are clearly handicapped in our efforts to do so. We can only hope that the present difficulties will be quickly overcome and the South Vietnamese, themselves, will soon realize the crucial importance of national unity and effective government to the success of their struggle against the Viet Cong. In the meantime, we should continue our existing programs and encourage other friendly nations to increase the scope of their assistance. Considering the great stakes involved in this struggle, I see no other alternative for the United States.

The future of Laos is intimately tied to the outcome of the struggle in Viet Nam. The Communists in the last year have made some gains seizing the strategic Plaines des Jarres and continuing operations throughout the eastern portions of Laos, with North Vietnamese participation proven by prisoners and captured equipment. These gains were partially offset by clearing operations along the key route between Vientiane and the royal capital of Luang Prabang. More encouraging has been the resiliency and firmness in pursuit of neutrality demonstrated by Prime Minister Souvanna Phouma's conservative and neutralist elements. Their fighting forces have worked together with increasing understanding and effectiveness in combatting the Communists. An ill-considered, right-wing coup attempt failed in April 1964; Souvanna's full authority was restored and he assumed for the first time the portfolio of Minister of Defense.

Souvanna's efforts have earned the increasing respect of the Government of Thailand and other neighboring countries which must be alert to the ebb and flow of communist power in the region. These efforts require external support. On Souvanna's request we have provided it in the form of supplies and, since May, by reconnaissance flights to detect communist military activities and the movement of men and supplies from North Viet Nam into Laos and through it to South Viet Nam. We propose to continue to sustain the present Laos government and to press for implementation of the Geneva Accords by which 13 nations pledge themselves to support the neutrality of Laos. Should the Communists conclude that U.S. support of the independent nations of Southeast Asia is flagging, we can expect that the Pathet Lao with North Vietnamese help, will resume the offensive.

Our relations with Cambodia continued to deteriorate during the past year. Prince Sihanouk, driven by his personal conviction that the Communists will win in South Vietnam, has embarked upon a policy of cultivating closer relations with Peiping, Hanoi and the South Vietnamese "Liberation Front." Continuing border frictions between Cambodia and South Viet Nam, resulting mainly from Viet Cong activities in the area, could one day provoke a break in relations with the United States, though for the present Sihanouk seems unwilling to burn this bridge. We have virtually no assets remaining within Cambodia to affect Sihanouk's attitude, which will probably be determined mainly by developments in South Viet Nam.

The death of Marshal Sarit of Thailand in late 1963 did not trigger the open power struggle feared in some quarters, and during 1964 the new leaders have worked out an apparently effective relationship. Economic growth continues; Thailand remains one of the most active participants in SEATO; and its armed forces continue to improve through our training help and military materiel assistance. Despite this progress, the northeastern and northern regions of the country remain vulnerable to communist attack and subversive penetration.

During his recent visit in Washington, Foreign Minister Thanat reaffirmed publicly Thailand's interest in combined efforts to preserve peace and security in Southeast Asia, a position increasingly evident in actions regarding both Laos and Viet Nam. In addition to our Military Assistance Advisory Group, we also have in Thailand certain logistic facilities and combat-ready air elements. These facilities add to Thai security but at the same time, in their view, identify Thailand with U.S. actions in the region and thus expose them to increased communist hostility. We need to continue our support and assistance to the Thai, both to help them reach their internal defense goals and to demonstrate that mutual defense undertakings cut both ways.

The leaders of Burma under General Ne Win increasingly reflect an historic Burmese tendency to look inward and seek freedom from unwanted outside pressures by minimizing their external relations. The Government has preserved its independence of action in essential respects despite the presence of Communist China on its border. It is, therefore, noteworthy that the Burmese continue to look to the United States and to exclude the communist states as sources for the military equipment needed in the reorganization and modernization of their modest military force. To preserve this relationship, we propose to fulfill our present commitments to them, which are scheduled to be completed by FY 1969.

The United Kingdom and its Commonwealth partners continue to assume primary responsibility for defense and other assistance to Malaysia, a decision we support. However, during Prime Minister Rahman's visit here last July 22-23, President Johnson, in the interest of preserving the integrity of this newly independent nation, agreed to provide military training in the United States for Malaysian personnel, and to consider promptly and sympathetically credit sales of appropriate military equipment for the defense of Malaysia. We now expect to provide a small military training program this year and we are ready to consider a sales program, provided mutually satisfactory terms can be arranged.

The problem of setting Indonesia on a forward-looking course remains an enigma for us and, I suspect, for its own leaders. The internal strength of the Indonesian Communist party is a factor which independent-minded President Sukarno cannot ignore. Moreover, his effort to balance Soviet and Chinese Communist influence makes Indonesia notably vulnerable to repercussions of Sino-Soviet friction and makes his international actions more erratic. A step up in its military-political confrontation with Malaysia further strains Indonesia's relations with major Western nations and with some of its neighbors, reinforcing its ties with the Communist world. The seating of Malaysia on the U.N. Security Council has led Indonesia to withdraw from that organization, the first nation to do so. This move will further isolate Indonesia from the Western nations.

The economy of Indonesia is a shambles, yet remains potentially rich. With a population of more than 100 million, the nation will play a major role in the region if stability and economic growth can once be achieved. Its strategic geographical position can provide bases to secure or deny vital sea routes between the Pacific and Indian Oceans. While working to restrain Indonesian pressure against neighboring free states, particularly Malaysia, we must at the same time hold open the door to restoration of a more positive relationship when Indonesia's

policy permits. Many of its military leaders regret the degree of aloofness which the current situation has imposed. Training previously planned for FY 1965 is under continuing review in light of the current political situation. No military assistance funds are requested for FY 1966.

In the South Pacific, our close alliance with Australia and New Zealand continues, not only on the political front and in ANZUS and SEATO, but also in terms of collaborative scientific development, weapons procurement, and contingency defense planning. These two countries, as partners in the Commonwealth, are also actively and directly supporting Malaysia's independence against the Indonesian threat. Australia has recently taken steps to increase significantly its defense capability.

3. Far East

To the north in the Pacific, Communist China is also the principal threat, it being quite unlikely that the Soviet Union would ever initiate hostilities in the Pacific separate from a war in Europe or a general world conflict. The situation in this area continues fairly stable, in large part because of United States military presence, but we know from experience that the Chinese Communists can quickly shift their pressure from the south to the north and we must continue to help the countries in that area where necessary.

Our principal commitment in terms of resources is still in Korea where we maintain two of our own divisions and help to support 19 Korean Army and Marine divisions. The U.S. military and economic assistance effort in Korea is one of our largest although we are seeking to reduce our aid programs gradually as its economy improves. Military assistance has already been reduced. It may also be desirable to reduce the overall size of the Korean forces, and this possibility is still under study.

The Japanese economy continues to flourish and the quality of its defense forces to improve. Further expansion of these forces, however, will be required if Japan is to play a role commensurate with its position in the world. The basically sound relationship existing between the United States and Japan was highlighted during Prime Minister Sato's recent visit to Washington and by the restrained behavior of the vast majority of Japanese during the first port call of one of our nuclear submarines, whose presence in the area stands clearly for the security of Japan as well as the United States. To an increasing degree, Japan and Korea are recognizing that their essential interests reinforce each other, and we look forward to further progress in their relations.

The economic success story on Taiwan continues toward the final termination of our grant economic assistance. Less spectacular, but of great importance has been the success of the Chinese in improving the efficiency of their military supply system, in maintaining their equipment and in producing certain types of supplies from their own resources. At the same time, however, the Free Chinese feel more sharply than any of their Asian neighbors the shock of the Chinese Communist nuclear explosion because they assume it foreshadows a military capability aimed primarily at them and particularly because it occurred midst evidence of their deteriorating position in the United Nations. The Communists across the narrow straits pursue their campaign of political denunciation and military threat. The Chinese on Taiwan must maintain, and we must continue to help them support, large modern military forces if their territory is to be defended.

Although less dramatically, the Philippine economy is also improving steadily. Our small military aid program there is still essential if we are to encourage and assist in achieving needed improvements in the organization, training and equipment of the Philippine forces. The Philippines will be holding a national election this year which may give certain elements an opportunity to create misunderstanding between our two countries. While the Philippines wishes to maintain friendly relations with Indonesia, it is repelled by Indonesian excesses in her conflict with Malaysia and apprehensive regarding Djakarta's intentions toward the Philippines itself. The Philippine claim to a portion of Malaysian Borneo had acted to defer recognition of Malaysia, with which the Philippines has much in common from an economic, political and ethnic standpoint. Accordingly, we will have to make a special effort to conduct our relations in such a fashion as not to prejudice our future use of the important Philippine air and naval bases or to discourage the increasingly active role the Philippines are playing on the Southeast Asia mainland. We have a long tradition of friendship with the Philippine people and it is in our interest to maintain the warmest relations with that country.

Throughout the Far East and Southeast Asia, the presence of large and powerful U.S. forces provides an important stabilizing influence as well as clear evidence to friendly nations in those areas of our willingness and ability to meet our security commitments.

4. South Asia

To the west, in South Asia, the Chinese Communists continue to menace India. No progress has been made in settling the border dispute and the Communists continue to improve their logistics base in Tibet. However, we do not anticipate a new outbreak of fighting in the

immediate future but rather an increased political effort on the part of the Chinese throughout the Sub-continent. Indeed, the Chinese have already increased the tempo of their political relations with all countries neighboring India, particularly Pakistan where they are trying to drive a wedge between that country and the United States. It is also quite possible that the Chinese will attempt to exploit anti-national feelings among India's dissident northern tribesmen.

Overshadowing all other issues, of course, is the Chinese Communist detonation of a nuclear device. The prospect of an unfriendly neighbor on its northern border armed with nuclear weapons is understandably disturbing to the Indian Government and people. Although the present Government has stated that it does not intend to respond to that threat by starting a nuclear weapons program of its own, there are pressures within India to do just that. The consequences of such a decision would be very unfortunate. Among other things, it would probably substantially accelerate the spread of nuclear weapons in other countries, not only in Asia but throughout the world. President Johnson's offer of support last October to non-nuclear countries facing a nuclear threat signalled our willingness to take action to prevent this spread.

The combat effectiveness of the Indian military forces has improved somewhat since the fighting stopped in 1962 but they still desire considerable help in almost all areas, notwithstanding the aid which we and the British Commonwealth nations have already furnished them. As you know, we provided India $60 million in military assistance in FY 1963, as part of a $120 million U.S. - Commonwealth emergency aid program agreed to at Nassau in December 1962. Subsequently, we furnished an additional $50 million in FY 1964 and we have continued this support from FY 1965 funds at a level of $49.2 million. We see a very real need for India to improve the quality of its defenses against the Chinese Communist threat, and we believe it is in our interest to assist them. We hope the United Kingdom and other Commonwealth countries will continue to follow our lead.

India is also accepting significant quantities of Soviet military assistance, a development which is not without benefit to us since it contributes to the schism between the Soviets and the Chinese Communists. However, we believe that our aid program has provided a measure of constructive U.S. influence in India that was not evident before the Chinese attack in October 1962. [redacted]

[redacted]

Over the next few years, we plan to help equip more of India's infantry divisions for mountain warfare, improve the air defense radar and communications network, continue support in the air transport and border roads areas and, if requested, provide both army and air force training. We are also providing modest defense production assistance in more modern machinery and technical assistance through a credit sales program.

Our military assistance to India has deeply troubled Pakistan, as you are well aware. Nevertheless, it is important to the entire free world, including Pakistan, that India should be able to defend itself against Chinese Communist aggression. As I indicated to you last year, the U.S. has taken great pains to assure the Government of Pakistan that our aid to India will not be at the expense of Pakistan's security, to which we are committed under our mutual defense agreements. We have repeatedly endeavored to reassure Pakistan of our continued interest in, and support for, its national integrity. We are also continuing a MAP program in Pakistan designed to maintain and help modernize their small but relatively efficient armed forces. Nevertheless Pakistan remains strongly critical of our arms aid program to India, and to counter what it believes to be a growing security danger from India, Pakistan has sought to strengthen its relations with other Afro-Asians, and has followed a policy of "normalizing" relations with neighboring states, including Communist China.

The Chinese Communists also pose a grave threat to Nepal and could easily overrun that country with their forces now in Tibet. More probably, in our opinion, the Chinese Communists' aim is to infiltrate and subvert Nepal. They have provided the Nepalese economic assistance, and a few radio sets and cloth for uniforms. [redacted] In conjunction with the U.K. and India we have initiated a small military assistance program with Nepal to strengthen their internal security capabilities. First deliveries were made in October 1964, consisting of medical equipment.

In our judgment, the defense of Nepal against an overt Chinese Communist attack is possible only in the context of a combined Nepalese-Indian defense of the Sub-continent. We recognize, however, the desirability of Nepal having an internal security capability, which we believe can be achieved with their existing 14,500 man army, provided it receives at least a small amount of external assistance.

In Afghanistan, the situation continues to improve. The Government is attempting to formulate and implement a number of basic reforms, and to reduce its reliance on the Soviet Bloc. In this attempt, it has turned to the U.S. with requests for both military training and economic assistance. We have continued, on the military side, our small training program, oriented towards achieving greater influence than was possible in the past.

5. Near East

The Near East remains an area of great political instability and uneven economic development. While some of the nations in this region -- Greece, Turkey and Iran -- border on the Soviet Bloc and are thus directly exposed to Communist military power, the more immediate danger to the peace and stability of the area is internal, and stems from: the deep-seated animosities existing between the Arab countries and Israel; the power struggles and rivalries among the Arab countries themselves; and the existence of powerful minority groups within most of these countries, such as the Kurds in Iraq, as well as inequalities which require social and economic reforms.

To complicate the situation further, relations between Greece and Turkey have again been strained by the outbreak of civil violence in Cyprus. Intense negotiations during the past year have failed to produce an agreed solution and Greece and Turkey remain as far apart as ever in their respective positions with Greece favoring union of the island with Greece (enosis) and Turkey, a federated state with the communities separated. Archbishop Makarios, President of Cyprus, is firmly in power and is continuing to maneuver toward his goal of a unitary state under majority (Greek Cypriot) rule with constitutional safeguards for the Turkish Cypriots as individuals but not as a community. The Archbishop continues also to bid for Soviet and neutralist support by such devices as calling for the removal of foreign influence from the island (e.g., the British Sovereign Base Areas).

[redacted]

Thus, we are still confronted in that area with the same two sets of problems which we have had for some time: the security of the three nations directly exposed to Soviet power; and the creation of an environment in which each nation in the area can maintain internal stability and develop its economy and society without fear of attack from its neighbors or infiltration and subversion by the Communist Bloc. To meet the first set of problems, we long ago made certain military commitments to Greece, Turkey and Iran, and have for many years provided them with military and economic assistance. Since Greece and Turkey are members of NATO and will be dealt with in that context, I shall not discuss them further in this section.

With respect to Iran, our objective has been to help build up their military forces to the point where they could ensure internal security and provide at least an initial defense against a Soviet attack across their borders. Although the Iranian military forces, with our aid, have improved significantly during the last decade, they are still not and never can be a match for the Soviet forces presently deployed along the Iranian borders, even though the terrain favors the defense. Thus, Iran could not be expected to stand alone for very long against a major attack from its northern neighbor and would require immediate assistance from the U.S. and its CENTO allies.

[redacted] In Iran, as elsewhere in the world, the best defense against the spread of communism is a steady improvement in economic and social conditions, the achievement of which is the primary aim of our economic aid efforts. These efforts are meeting with considerable success. The modernization of Iranian society under the leadership of the Shah and the economic and social reforms he has initiated are making Iran an example for other developing nations. Our military assistance has provided improved capabilities for internal security which has been a significant complement to the Shah's ability to execute his reform and modernization program.

In the rest of the Near East, our Military Assistance Program is essentially confined to training, with the exception of Jordan where we also have a small materiel program. Although we do not share with the other Near East countries membership in any formal regional military organization, our interest in supporting stability and peace in the area has been well established and, we believe, is clearly understood by the countries involved. But the maintenance of stability and peace there is extremely difficult.

The Yemen remains an area of conflict to which the UAR and Saudi Arabia have both committed substantial materiel and prestige, and the UAR, a large expeditionary force. A cease-fire between the Saudi-backed Royalists and the UAR-supported Republicans was agreed to in November but prospects for a lasting solution to the Yemen problem are more illusory than real.

Iraq and Syria continue to be rent by internal struggles for power. The only ostensible objective which all of these Arab nations appear to share in common is the destruction of Israel. Violence may flare up at any time over Israel's diversion of the waters of the Jordan River or Arab counter-diversion plans. Thus far, Arab reaction to Israel's diversion of the Jordan waters has been reasonably muted. However, we are watching carefully the implications to our interests in the area, of the United Arab Command (UAC) which was established at the first Arab summit meeting in Cairo in January 1964. Although, nominally, a joint Arab command, the UAC is actually under strong Egyptian influence and direction. Its purpose is to build up the military forces of the Arab states contiguous to Israel to ensure their capability to contain and repulse any Israeli military counteraction against their proposed Arab diversion of the Upper Jordan headwaters.

The U.S. objective has long been to keep the Arab-Israeli feud from escalating to overt hostilities. Realization of this objective has been made more difficult by the injection of substantial Soviet Bloc aid - both economic and military - into the region, and particularly into the UAR, Syria, Iraq, and Yemen. To avoid total dependence on Soviet arms, the U.S. has, on a very selective basis, provided some assistance in the form of sales of military materiel to some of the Arab states, including Saudi Arabia and Jordan. And, to help discourage an Arab attack, the U.S. has sold HAWK anti-aircraft missiles to Israel to help provide an effective defense against the modern fighters and bomber aircraft furnished to the UAR by the Soviet Union.

[redacted]

We believe that, at the moment, Israel is capable of defending herself against an attack by any single Arab state or a combination of

several of them. But such an overt military aggression in the Near East would pose grave dangers to the peace of the world and we are anxious to prevent anything from upsetting the precarious peace of the area. In addition to our grant aid materiel and training programs, and selective arms sales, our forces have engaged in military exercises with those of such friendly countries as Iran and Saudi Arabia in order to demonstrate our capability and determination to lend support when and if required. We have also made our military presence visible through judicious and periodic deployments of our forces in the Near East.

6. Africa

Last year, when I appeared before this Committee, I said:

> "Within the framework of an Africa of emerging or newly independent states struggling to achieve economic and political viability, the reality of and potential for Communist penetration are self-evident. While we do not consider an overt Soviet attack on any African country a likely possibility in view of the logistics problem they would encounter and the far greater long-range mobility of our military forces, we are concerned with the many opportunities available for Communist penetration, subversion, and other forms of covert activity."

Our concern was not misplaced. During the past year the Communists have indeed exploited all opportunities for extending their influence in Africa. They have launched relatively effective political and economic efforts and they continue to advance their military programs in several countries. Through discipline and organization, the Communists and pro-Communists have gradually penetrated trade unions, student groups and youth organizations and are active in both public and governmental life in many African countries.

The Soviets have provided major military assistance programs for Somalia and Algeria and have strengthened their influence in Ghana. Both the Soviets and the Chinese Communists have fostered and supported the insurrection in the Congo and some of the more radical and militant African states have intensified the present internal disorder by aiding the rebels with personnel and equipment. The Soviets and the Chinese Communists have gained control of the advisory, training and supply activities for the military forces on Zanzibar and have established at least temporary military ties and military supply programs in Tanzania on the mainland of East Africa.

Rhodesia and the Portuguese territories in Africa are areas under pressure from African liberation movements. If and when the poorly

equipped and trained rebel groups turn to the communist states for assistance the door would be opened to penetration.

With the transition to independence of their former African territories, the United Kingdom, Belgium and France have withdrawn all or most of their troops. France's withdrawal will reduce their troop strength [redacted] This reduction coincides with a period when a few of these countries have become receptive to diplomatic cooperation and economic assistance from Communist China.

Our own security interests on the continent of Africa are primarily focused in Morocco and Ethiopia, where we maintain communication facilities, and in Libya, where we have an air base. These facilities are valuable elements of our world-wide force posture. We are, of course, greatly concerned with the African nations bordering on the Mediterranean because of their special strategic importance in relation to the southern flank of NATO, and with the Horn of Africa (Ethiopia and Somalia) because it guards the southern approaches to the Red Sea and the Suez Canal. The strategic significance of these areas has also been recognized by the Soviet Union which, as I pointed out earlier, is providing major military assistance to Somalia and Algeria and is working to push us out of Libya. Approximately half of our very modest military assistance program for Africa is allocated to Ethiopia, with a small amount to Libya. We also have a small training program in Morocco [redacted]

With respect to Africa south of the Sahara, our interest is to support, in conjunction with other friendly powers, the important "nation building" tasks that are peculiar to virtually all of the emerging African societies. Our economic and technical aid programs are designed to contribute to the development of viable societies and our very modest military assistance programs are all geared to internal security.

The most urgent military assistance program is the one for the Republic of the Congo. Here, we have been engaged with other friendly nations since 1960 in an effort to promote the stability of this centrally located and potentially rich but strife-torn nation. When the U.N. program ended last year because of the lack of financial support by some of the other member nations, we continued with the Belgians and others to help the legitimate Government of that nation with a limited amount of logistics support and training. Without that help the rebels would have been successful in overthrowing the Congolese government. The re-establishment of law and order in that

chaotic country is a vital prerequisite to ultimate political and economic stability and we believe that the present Government is entitled to the support of all freedom minded nations in its efforts to achieve that objective. If the precedent is ever established in Africa that a legitimate government can be overthrown at will by dissident forces supported by other nations, the African nations themselves will be the principal losers.

Again, I wish to emphasize that the United States is carrying only a small part of the total Free World burden in assisting the Africans to develop their own national societies. Other nations, notably the United Kingdom, France and Belgium, are contributing much greater amounts to their former colonies; and Germany, Italy and Israel are also making significant contributions. The objective of our aid programs in Africa is to assist, in concert with other friendly powers, in maintaining internal security and government stability for a long enough period of time to permit the new nations to develop their own political, economic and ideological structures. To do less is to invite a Communist takeover of most of Africa.

7. Latin America

Although the threat of Communist infiltration and subversion still hangs over Latin America, the more fundamental problem in that region is to instill in the hearts of the people the hope for a better future and to provide a sound basis for realizing that hope. As long as hunger and economic stagnation persist in Latin America, political stability is imperiled and the opportunities for Communist penetration are enhanced. Thus, the real danger in this part of the world is the discouragement, disillusionment and despair of the people resulting from the lack of economic and social progress and chronic political instability.

In those respects, the situation in Latin America has improved significantly during the last year as the Alliance for Progress, launched by President Kennedy in 1962, takes hold. We are beginning to see the kind of concrete results the Alliance was expected to produce. Throughout the Hemisphere there is a growth in self-help measures which, perhaps more than any other single factor, demonstrates the progress being made under the Alliance. And there is a growing confidence abroad in the stability of the political institutions and viability of the economies of many of the Latin American countries -- a confidence tangibly reflected in a rising inflow of foreign investments. U.S. private investments in Latin America, for example, were twice as high in 1964 as in 1963. Since 1962 all the Latin American

countries have improved their tax administration and nine of them have adopted major tax reforms. Twelve countries have introduced agrarian reform legislation and, in Latin America as a whole, education budgets have been increased about 13 percent a year, with five million more children attending school. Fifteen countries have established self-help housing programs, nine have enacted legislation permitting the establishment of saving and loan associations and eight have established new private or public development banks.

Programs under the Alliance have helped build more than 23,000 class rooms, more than 220,000 homes, some 3,000 miles of roads and more than 1,000 water supply and sewage systems serving 15 million people. They have helped create some 900 credit unions and have made more than 200,000 agricultural credit loans, and last year helped feed 23 million people.

The multi-lateral nature of the Alliance was strengthened by the creation of the Inter-American Committee. This new organization provides for the first time a permanent forum in which the American republics can examine and discuss together the whole spectrum of their economic problems, needs and accomplishments. As President Johnson pointed out to the ambassadors of the Latin American nations last year:

> "The foundations have been laid.. . . In the next year there will be twice as much action, twice as much accomplished as in any previous year in this program. I say that with confidence and I can see that our Alliance for Progress will succeed."

Our military assistance program for Latin America continues to be oriented towards internal security and civic action. Due in large part to U.S. efforts, civic action has now been generally accepted as an important contribution to the social and economic development of the Latin American countries.

Admittedly, the picture in Latin America is not all favorable. There have been some notable setbacks. The military coup in Bolivia, which overthrew the Government of President Paz, has opened up a new period of political instability for that country. The new Government, headed by former Vice President Barrientos, is handicapped by a shortage of experienced and competent civilian experts, which has given rise to a gap between promise and performance. If the junta can survive until Presidential elections are held, the prospect of an orderly transfer to a constitutionally elected government will be

[redacted]

enhanced. Reforms in the mining sector were obstructed to a large degree by the Communist-led miners' unions during the previous administration, and the rehabilitation of the nationalized mines remains the principal problem facing the junta. A new president, with the full backing of the military, would possess the capacity to disarm the miners' irregular militia that has contributed so much to the instability of the country since the revolution of 1952. The willingness of the next Government to do so, however, remains to be seen.

In Uruguay, usually rated the most stable and progressive of the Latin American republics, economic stagnation coupled with an unrealistic diffusion of political authority has brought the country to the brink of political crisis. With its small security forces, the government could not cope with large-scale and wide-spread internal disorder. The leftist elements, which include groups of hardline terrorists, are capable of initiating such action as they did when Uruguay broke with Cuba but it is doubtful that the vast majority of people would follow their lead. A leftist take-over of Uruguay is not considered likely.

The Argentine Government continues to face the problem of preventing a resurgence of Peronism. Extremist elements have committed sporadic acts of violence during the past year, but the real problem that concerns us is the unsatisfactory economic progress of the second largest nation in South America.

In Colombia, the banditry problem seems to be abating but the potential for a resurgence of violence and for its development into guerrilla warfare still exists. The emphasis on civic action by the Colombian Armed Forces has won the cooperation of the rural people and the Colombian Navy and Air Force have increased their support of the ground forces in the counter-insurgency effort.

Although periodic attacks by subversive and terrorist elements in Venezuela continue, the military and the police have been able to keep them under reasonably good control. [redacted]

In British Guiana, the election of December 7, 1964 resulted in the defeat of Jagan's "Peoples' Progressive Party" and the formation of a new coalition government composed of former opposition parties. As a result, the prospects for future political, economic and social development have noticeably improved. However, the possibility of

[redacted]

Jagan-inspired racial violence exists if he chooses to oppose strongly the moves of Forbes Burnham's new Government. We expect that British military forces will remain in British Guiana until independence is granted. The British Labor Government has announced that independence will be contingent on the demonstrated ability of the Guianans to establish a stable political structure.

The recent presidential election in Chile rejected by a sizeable majority a communist-dominated political coalition. Under the new moderate reform-minded President, there are good grounds for hoping that real progress will be made in solving Chile's economic and social problems. A failure to demonstrate real progress could result in the people turning to the extreme left for leadership.

Perhaps the brightest spot in Latin America is Brazil. There a group of state governors and military leaders, when faced with the possibility of a communist take-over, displaced the communist-infiltrated Goulart regime last April. Since then, the Brazilian Government, backed by the armed forces, has moved with both restraint and unmistakable firmness in eliminating communism and corruption from the government. Brazil's new Government has also made good progress in putting its economic house in order. New tax measures have been enacted which will help reduce the budget deficit. Aggressive reform legislation has been passed and a national housing bank has been established. The outlook for private foreign investment was brightened by the passage of a liberalized profit remittance bill. Several measures have been taken to stimulate exports, including adoption of more realistic exchange rates for exports and a reduction in red tape. In the monetary field the new Government has taken action to hold down the rate of increase in the money supply and slow down the rate of inflation. The confidence of the United States in the new Government was expressed last December in a new assistance program of approximately $450 million. For the first time in many years there is new and real hope that the largest country in Latin America is finally on the road to economic stability and progress.

Last December, President Johnson announced a new offer to renegotiate the 1903 Treaty with Panama in connection with our plans to construct a new canal between the Atlantic and Pacific Oceans. This proposal opens up new possibilities for better relations with the government and people of Panama. The new canal will be a truly enormous undertaking and it will have a tremendous impact on the future development of the country in which it is located. As you know, four possible routes will be explored -- two in Panama, one in Colombia and one which would go through Nicaragua and possibly Costa Rica as well.

The present canal, now fifty years old, and the agreements under which it is managed are both old and need to be replaced. The canal itself cannot handle our big attack carriers or many of the world's most efficient commercial ships. A new agreement, while retaining for us the rights needed to operate and protect the present canal should recognize the sovereignty of Panama, provide for its own termination when a new canal becomes operational and provide for effective defense arrangements.

The situations in Haiti and in the Dominican Republic, while quite different in nature, continue to be unstable. Toward Duvalier in Haiti we attempt to seek a minimum level of mutual accommodation. But we are providing both economic and military assistance to the Dominican Republic as part of our efforts to help guide it back to democratic, constitutional government.

The continued existence of a Communist regime in Cuba still poses a threat to many Latin American nations since it serves as a base of operation for Communist subversive activities throughout the Hemisphere. As a result of the Organization of American States' investigation of the landing of Cuban-supplied arms in Venezuela, the Government of Cuba was warned that the members of the OAS would meet new cases of aggression with armed force, if necessary. All members of the OAS were called upon to apply mandatory sanctions against Cuba: suspension of sea transportation; suspension of trade, except for food, medicine and medical equipment sent to Cuba for humanitarian reasons; and the termination of existing diplomatic and consular relations. By September 1964, all members, with the exception of Mexico, had severed relations with Cuba. These sanctions are making it far more difficult for Cuba to dispense arms, money and propaganda in other Latin American countries.

Internally, the Castro Government is struggling with a grave economic crisis which could worsen because of the depressed level of sugar prices as well as the low level of sugar production. The Soviet Union has been forced to make up the large Cuban balance of payments deficit and the support of the Cuban economy continues as a heavy burden to the Soviet treasury. The performance of the Cuban economy under Castro provides the most convincing evidence to all of the underdeveloped nations that Communism cannot offer a quick and easy road to economic development. These difficulties have no doubt increased the friction between the "old" and "new" Cuban Communists but the Castro government's grip on the people through the use of police state methods still remains unbroken. We are continuing our efforts to isolate Cuba from the Free World, thus increasing for the Soviets the burden of supporting that country.

8. Europe and the NATO Area

Compared with the situations presently existing in most other areas of the world, Western Europe stands out as one of the shining successes of U.S. foreign policy. Twenty years ago, with the end of World War II, this Nation undertook the enormous task of rehabilitating the war ravaged economies of Western Europe, including those of our former enemies. When the Soviet Union turned down our offers of cooperation and economic aid and made it clear that it would persist in a policy of communizing Eastern Europe through subversion and the threat of force, we joined in 1949 with the nations of Western Europe, Canada and Iceland in a defensive military alliance -- the North Atlantic Treaty Organization. And following the Communist attack on South Korea in 1950 we deployed a total of five divisions to Europe to assist our Allies in defending themselves against the suddenly increased danger of a Soviet attack.

All of these actions were unprecedented. Never before had we undertaken such an enormous program of economic aid to other nations; never before had we committed ourselves to a multi-lateral military alliance with an integrated system of military commands prior to actual war; and never before had we stationed major military forces outside of our country in peacetime. All three of these actions represented most fundamental changes in traditional American foreign policy and reflected a realization on the part of the American people that our own security and well being could be ensured only in the context of the collective defense of the entire Free World. The success which this policy has met in Western Europe stands as a tribute to the foresight and wisdom of the American people.

The transitory difficulties which arise from time to time -- the cleavage between Greece and Turkey over Cyprus, the current economic problems of the United Kingdom, the differences we have with some of our NATO partners on nuclear policy -- should not be permitted to obscure the fundamental fact that, except for the United States, Western Europe today represents the greatest source of economic, political, and ideological strength opposing the Communist camp. And, it also is the bastion of Free World power closest to the center of Soviet military strength. Obviously, the loss of any part of this area would be a disastrous blow not only to Western Europe's security and well being but to our own as well. In this connection, the nations of NATO are not only our military allies, they are also our principal trading partners.

We and our NATO allies, therefore, have every reason to continue to work together in further advancing the security and prosperity of Western Europe and in strengthening the bonds among all of the members

of the Alliance. NATO, in its almost 16 years of existence, has fully met its original objective -- to secure Western Europe against Communist aggression. For these 16 years, Western Europe has been an oasis of peace and stability in a rapidly changing and turbulent world. But, as I pointed out earlier, the balance of strength among the NATO nations, and particularly as between the United States and Western Europe, has shifted markedly. Today, the six Common Market countries and the United Kingdom alone have a total population, a total military manpower pool and a total gross national product well in excess of that of the Soviet Union, and Western Europe's economic growth continues apace. The most recent quarterly survey of the Economic Situation, published by the European Economic Community in September, estimates an increase in real GNP for the whole community of between 5 and 5-1/2 percent in 1964, and forecasts a rate of increase of at least 4 percent in 1965.

Although we are still not fully satisfied with what has been accomplished in the military sphere, the NATO forces deployed in Western Europe are at a higher peak of effectiveness, today, than has ever been the case in the past.

But these same developments which have so favorably altered the position of Western Europe vis-a-vis the Soviet Bloc, together with the tremendous advances made in military technology, have also created a need for a comprehensive reassessment, not of the basic objectives of the alliance, but rather of the ways and means by which these objectives are to be achieved over the next decade. Our basic objectives in Western Europe are simply to ensure the security of that area against Communist aggression and to further its economic growth and political stability. Certainly there can be no disagreement between us and our European NATO partners on these basic objectives.

What disagreements we do have concern the question of how best to achieve these basic objectives. In the military area the principal issue revolves around nuclear policy. There are actually two aspects to this problem. The first involves the role of tactical nuclear weapons in a war in Europe. I will discuss this subject in considerable detail in connection with the General Purpose Forces programs. But I do want to remind you at this point that we have already provided our European NATO partners with a tactical nuclear capability, although the nuclear warheads themselves are retained under United States control. We have for many years been furnishing them with nuclear capable weapon systems of many varieties, including aircraft and missiles, and we have been training large numbers of Allied military personnel in the use of these weapons. Indeed, during the last four years, the number of tactical nuclear weapons in Western Europe has been increased by about 60 percent and now totals in the thousands.

The second aspect of this problem concerns the proper role of our European NATO partners in the strategic nuclear mission. This is the area in which the sharpest differences have become evident. The crux of the present disagreement concerns ownership and control. We believe that the strategic nuclear forces assigned to NATO must be controlled under a single chain of command and must be fully coordinated with external strategic forces.

We have all agreed that an attack upon one member of NATO would be considered an attack upon them all. Therefore, a decision by any NATO nation to invoke the use of strategic nuclear weapons in retaliation against another nuclear power (i.e., the Soviet Union) would risk the involvement of all the members of the Alliance in a global nuclear war.

Moreover, the complex of targets against which such weapons would be used must, as a practical matter, be viewed as a single system. Because of the tremendous destructive potential of a nuclear exchange and the great speed at which it would take place -- as quick reacting missiles become the predominant strategic weapon for both sides, the time would be reduced to a matter of minutes -- decisions must be made and executed very quickly. Targets must be allocated to weapons in advance (of course, with options), taking into account the character of the targets, their urgency, importance and degree of hardness, as well as the character of the weapons, their range, yield, accuracy and speed.

Under these conditions, a partial uncoordinated response could be fatal to the interests of all the members of NATO. That is why in all our discussions of the various plans to enlarge the participation of our NATO partners in the strategic nuclear offensive mission we have consistently stressed the importance of ensuring that the Alliance's strategic nuclear forces are employed in a fully coordinated manner against what is truly an indivisible target system. The essential point here is not that this force must be under exclusive U.S. control but, rather, that we must avoid the fragmentation and compartmentalization of NATO nuclear power, which could be dangerous to all of us.

We are also keenly aware of the heavy costs involved in creating and maintaining a strategic nuclear force. The French in their public statements have estimated the cost of their Force de Frappe at about $5-1/2 billion for the period 1965-70. [redacted] The United Kingdom, which already has a small strategic nuclear offensive capability, is finding the cost of its continued modernization and maintenance more than it can bear. Even assuming a continued high

rate of economic growth, it would take the combined resources of all of our European partners to create a truly significant nuclear capability with which to face the Soviet nuclear threat, in addition to financing the forces required for other military missions. Accordingly, all of the plans we have proposed to enlarge the participation of our European partners in the strategic offensive mission have been based on the concept of a collective effort by the United States and other NATO members.

But we are not seeking to force our own views on our NATO partners, as President Johnson has made clear. Rather, we are seeking to find a way of responding effectively to the largest possible concensus among them. We do not intend to enter into any general agreement respecting the nuclear defense of the Atlantic Alliance which does not take account of the legitimate interests of all of our European allies, including France. We will not enter into any agreement which does not hold open the door to French participation.

Furthermore, any such agreement we enter into must reinforce our basic policy of non-dissemination of nuclear weapons, i.e., the consent of the United States must be obtained prior to the firing of nuclear weapons. If, however, the major nations of Europe some day achieve political unity with a central political authority capable of making the decision to use nuclear weapons, the United States recognizes that this will create a new situation in which it would be appropriate to reconsider any agreement which might be made under the present circumstances. In any event, the revision of such an agreement would be possible only with the unanimous approval of the members.

However organized, any strategic nuclear forces in Europe should be closely coordinated with our own forces so that they could be jointly targeted. I am happy to say that all of our NATO partners, including France, understand this imperative of strategic nuclear warfare.

In pursuing the objective of an Allied nuclear force, we have no fixed timetable. Indeed, inasmuch as we have repeatedly stated our own views, we prefer that our European NATO partners now take the initiative in developing their proposals for such a force. But I want to make it very clear that the basic concept of an Allied nuclear force has the full support of our Government since it will advance the principle and the practice of collective strategic defense as against the proliferation of separate nuclear deterrents, and we shall not be laggard in responding to such proposals.

With regard to NATO planning generally, I can report that a comprehensive and systematic study of NATO force planning is now going forward under the auspices of the North Atlantic Council, on which

Ambassador Finletter is our representative in Paris. A competent group of specially selected representatives of the member countries has been working under Council guidance to relate strategy to force requirements and force requirements to resources, so that realistic force goals can be developed, which all of the members of the Alliance will consider attainable with the resources they are able to commit to the common effort. This study has been going on about a year now, and has made substantial progress. At the recent NATO meeting, the Ministers reaffirmed the charter for this Force Planning Exercise and we hope it will lead within the coming months to a greater degree of Alliance agreement on NATO's needs for the years ahead.

The NATO Force Planning Exercise is bringing home to NATO nations the benefits of orderly planning and programing based on a reconciliation of forces, budgets and strategy. I think that the benefits of this approach, under which nations assume realistic tasks and NATO commanders have a firm basis for planning the employment of their forces, will lead NATO to move away from its current method of determining force requirements with only minimum reference to resource availability.

With the increasing affluence of most of our NATO partners, the Alliance has become a much more "mutual" undertaking. We have, during the last few years, entered into numerous cooperative efforts of direct benefit to the balance of payments position of the United States. These agreements cover not only procurement but research and development and logistics support programs as well. In addition, our NATO partners are also helping each other. Germany is helping to offset the foreign exchange costs of British troops on their territory and assistance is being rendered to Greece and Turkey by several of our NATO allies.

One final point. Although NATO is primarily a military alliance, it has also served as well as a forum in which we can exchange views with allies on all aspects of national security policy. As you know, the Ministers of Foreign Affairs and of Finance participate with the Defense Ministers in the NATO Ministerial meetings and this arrangement has been very helpful in coordinating the policies and actions of the NATO Alliance. Thus, NATO is an important political and economic as well as a military asset to the United States and we should do everything in our power to maintain and enlarge its strength and unity.

Having said this, however, we should be under no illusions that unity will be easy to preserve. There are a number of issues on which we and some or many of our NATO allies disagree. In addition to the subject of NATO strategy, these cover such sensitive matters as

relations with Communist China, policy in Africa, operations in Southeast Asia, and trade arrangements with Eastern Europe. Many of these differences stem from divergent interpretations of Soviet behavior, the nature of the global Communist threat, or the likely course of events in various non-European areas of the world.

Though not necessarily alone in his objections to certain alliance policies, General DeGaulle has taken a more extreme position in opposition to the present NATO organizational arrangements believing that they permit the exercise of too extensive a U.S influence. We do not yet know what changes he may propose in 1969, when changes to the North Atlantic Treaty may be offered. It seems probable, however, that he may seek a looser association with less emphasis on integrated command arrangements.

9. The United Nations

President Johnson in his State of the Union Message renewed this nation's commitment to the continued growth and effectiveness of the United Nations. We consider the U.N. peace keeping forces a vital contribution to the security of all the nations of the world. The Department of Defense will do its part in rendering appropriate support to these forces in their peace keeping missions.

* * * * *

In summary, we see a world in which long frozen positions and attitudes are beginning to thaw, in which the new and less developed nations are striving to achieve identity and get their feet on at least the first rung of the ladder of progress, and in which the struggle against the spread of Communism continues unabated. But we also see a world in which new opportunities to advance the cause of peace may arise and we intend to take full advantage of them. We have long recognized that as the arms race continues and the weapons multiply and become more swift and deadly, the possibility of a global catastrophe, whether by miscalculation or design, becomes ever more real. We also recognize that more armaments, whether they be offensive or defensive, cannot solve this dilemma. The United States and the Soviet Union, as the two great nuclear powers, are the nations most directly endangered by these weapons and we, therefore, share a common interest in seeing that they are never used. Accordingly, we intend to pursue every step, no matter how small, which might lead to a peaceful understanding with the Soviet Union that would lessen the danger to us all. And we intend to stand fast against the presently implacable animosity of Communist China until that nation, too, realizes that its security and progress can be better served by a more peaceful policy.

[redacted]

C. THE DEFENSE PROGRAM AND THE ECONOMY

As I pointed out in previous years, a program as large as Defense is bound to have an important impact on the economy -- internationally, nationally and locally.

1. Impact on the National Economy

Federal expenditures on goods and services for national defense and related purposes (atomic energy and space) have accounted in recent years for approximately ten percent of our gross national product and nearly one-tenth of our total employment. Of the roughly 6.7 million persons estimated to be engaged in defense work, over half are employed directly by the Federal Government. The rest work either for contractors and subcontractors employed on defense programs or for firms providing materials and services to defense contractors. However, the distribution of this work by industry, by company and by community is very uneven. Most defense-related work is concentrated in five manufacturing industries -- ordnance, aircraft, shipbuilding, communications equipment and electronic components. These major defense industries are, themselves, highly concentrated in certain states and geographic areas and, indeed, our military installations, with their military and civilian complements, are also geographically concentrated to a considerable degree, not infrequently in the same areas as defense industries. In some states more than ten percent of total personal income is derived from defense sources and in many communities the defense contractors are the principal sources of employment.

National defense programs also employ a very large proportion of the nation's engineers, scientists, technicians and highly skilled craftsmen. Over half of the total national research and development effort is supported by these programs. Indeed, the "aircraft and parts" and the "communications and other electrical equipment" industries, which receive more than three-quarters of all Federal Government research funds spent in industry, employ over one-fourth of all engineers and scientists in American industry and well over one-third of those are engaged primarily in R&D.

Thus, the Defense Department, as the principal Federal agency engaged in these programs, has a vital concern with their impact both on the Nation as a whole and on the individuals, communities, companies and industries involved. We recognize our obligation to do everything we properly can to minimize the disruptive effects of changes in our programs and to assist, insofar as we are able and the law permits, those who are adversely affected by these changes. The Defense Department, however, cannot and should not assume responsibility for creating a level of demand adequate to keep the economy healthy and growing. Nor

[redacted]

should it, in developing its programs, depart from the strictest standards of military need and operating efficiency in order to aid an economically distressed company or community. The Congress has underscored this limitation by explicitly forbidding in our annual appropriation act "the payment of a price differential on contracts . . . for the purpose of relieving economic dislocations."

Defense Department policy in this regard is to buy what we need, when we need it, at the lowest cost to the Government, quality and delivery schedules considered.

Actually, in the aggregate, the changes in the Defense program taking place today are not as severe as those which have taken place in previous periods, notably after World War II and the Korean War. Indeed, changes in the internal composition of the Defense program are required even during periods of rising expenditures and their impact on the economy as a whole is not far different in kind or degree from those which periodically take place as a result of changes in civilian demand or technology, or the exhaustion of natural resources in a particular area. Adjustment to all of these changes can best be accomplished when the economy as a whole is expanding. Thus, the most fundamental answer to problems of changes in the Defense program is a strong and growing economy -- a development which we would want to foster in any event.

There are, however, a number of measures which the Government can take to alleviate hardships on particular individuals and communities during the period of readjustment, again keeping in mind that the problems of adjustment stemming from changes in Defense spending are generally similar in nature to the dislocations which result from other economic and technological changes. These include:

a. The maintenance of employee income during the period of readjustment. This is the task of the Federal-State unemployment insurance system, improvements to which are now being studied.

b. Job information and placement services. The Department of Labor operates several major programs in this area which, although not specifically designed to deal with problems arising from Defense-related shifts, have proven useful in easing the impact of previous curtailments in Federal expenditures. These include the Federal-State Employment Service, the Mass Layoff and Community Employment Development programs and a supplemental data processing and telecommunications system to facilitate inter-area recruitment. Various State employment services have also developed special programs to cope with sudden unemployment problems.

The Defense Department itself has recently revised its policies for employees affected by Defense reductions. Installations which are reducing employment levels are required to notify all other Defense Department installations within their Civil Service region. These latter installations must then use the former installation as their prime recruitment source, avoiding employing persons from outside. We have, as you know, guaranteed another job opportunity to every career employee whose job has been abolished by a base closing. To the extent possible, we are offering a choice of alternative locations. In contrast to the 30 days notice required by Civil Service regulations, we are giving our employees 60 days notice in active pay status. In addition, they may also request leave without pay or annual leave for an additional 30 days prior to separation or furlough.

c. Training and retraining. Among the programs in this area are those under the Manpower and Development Training Act and those of the Area Redevelopment Administration. The Department of Defense, itself, in cooperation with other agencies, has developed its own training programs for Government workers displaced by base closings. Maximum use is made of authority to waive formal qualification requirements and to enter into training agreements with the Civil Service Commission. In addition to the training programs available generally, Defense Department contractors are also allowed separation or retirement expenses as part of regular contract termination costs as well as the costs of training and education related to new jobs with the same employer.

d. Relocation allowances. Except for the limited experimental program now being planned under the Manpower and Development Training Act, there is no major Federal program of assistance for relocating displaced employees of Defense contractors. The 1964 tax revision, however, does permit deduction of personal moving expenses when incurred because of a change in jobs. With regard to Defense Department employees, the Department will pay appropriate expenses of moving them, their dependents and household effects when they are displaced by base closings and are transferred to new posts. The Federal Housing Administration has a program of mortgage forbearance which is of help to workers faced with the problem of disposing of their homes when they have to leave a community for new employment.

e. Assistance to communities. The Federal Government has a number of programs to assist communities adversely affected by changes in defense and defense-related programs. As you know, we have established within the Department of Defense an Office of Economic Adjustment. This office has been expanded and strengthened during the last year. A Select Advisory Committee, consisting of representatives of a number

of Federal agencies, provides the coordinating mechanism for the efforts of those agencies and the Office of Economic Adjustment in assisting local communities.

In working with these communities, the Office of Economic Adjustment encourages and assists local leadership to identify and exploit their own resources for economic growth. Officials of local defense firms are encouraged to participate in the community effort. Members of the staff of the Office of Economic Adjustment visit the communities on their invitation, provide ideas and advice and serve as a focal point for community efforts. Where appropriate, the Office helps communities to identify Federal programs applicable to the local problems and puts them in touch with the appropriate Government offices. I will describe later some of the successful efforts in this area in connection with the Cost Reduction Program.

f. Assistance to firms. In a free enterprise, competitive economy, it would be inappropriate for the Government to subsidize individual firms, even those engaged primarily in supporting the Defense program. To do so would be to discriminate against non-Defense firms. We do, however, have a number of programs designed to assist Defense contractors in adjusting to program changes. One of these is the series of industry briefing sessions that we have scheduled for March and April of this year which we hope will provide Defense contractors with a better understanding of the future trends in the Defense program. We have recently revised the Armed Services Procurement Regulations to allow under Defense contracts an applicable portion of the "costs of generalized long-range management planning which is concerned with future overall development of the contractor's business and which may take into account the eventual possibility of economic dislocations or fundamental alterations in those markets in which the contractor currently does business." We also give certain limited preferences to chronically depressed and surplus labor market areas and provide for an equitable participation by small business firms. The Small Business Administration, itself, has both financial and technical assistance programs that may be of aid to small firms affected by Defense program changes.

The ability of our free enterprise economy to adjust to change is one of its greatest strengths. It is through the free market mechanism that resources are shifted from areas of declining demand to areas of expanding demand, and from less profitable to more profitable use, to the benefit of the entire nation. The programs I have described are designed to facilitate this shift in resources, not to impede it; they are also designed to alleviate the hardships on the individuals and communities concerned.

2. Impact of the Defense Program on the Balance of Payments

The persisting deficit in our Nation's international balance of payments and the impact of the Defense Department's program on that deficit continues to be a major concern. During 1958-1963, that deficit averaged about $3-1/2 billion annually on regular transactions (about $3 billion annually considering special transactions). For the same period, U.S. gold stocks declined by nearly $7-1/2 billion to a level of about $15.6 billion while liquid liabilities to foreigners, an important part of which represents a claim on our gold stocks, rose more than $9 billion to a level of over $25 billion. Although we expect the overall U.S. balance of payments for 1964 to show some improvement over the 1958-1963 average, we find no cause for relaxing our efforts to reduce the net foreign exchange costs of our military programs. As shown in the table below, we have made good progress toward that objective since 1961, while still maintaining our overseas combat capability and avoiding the creation of hardships for our military and civilian personnel and their dependents.

($ Billions, Fiscal Years)

U.S. Defense Expenditures	Actual 1961	Actual 1962	Actual 1963	Actual 1964	Est. 1965	Est. 1966
U.S. Forces and their Support	2.5	2.5	2.5	2.5	2.4	2.3
Military Assistance	.3	.2	.3	.3	.2	.2
Other (AEC, etc.)	.3	.3	.2	.1	.1	.1
TOTAL	3.1	3.0	3.0	2.9	2.7	2.6
Cash Receipts from Sales	-.3	-.9	-1.3	-1.3	-1.1	-1.2
NET ADVERSE BALANCE	2.8	2.1	1.7	1.6	1.6	1.4

The net adverse balance of payments on the Defense account was reduced about $1.2 billion between FY 1961 and FY 1964, bringing it to a level of about $1.6 billion. We hope to make a further reduction of about $200 million in FY 1966 bringing it to an annual rate of about $1.4 billion. As shown in the table, this will be achieved primarily by reducing gross expenditures overseas, in contrast to the FY 1961-FY 1963 period when rising receipts were the principal factor. The savings will be achieved by a continuing effort to streamline our military operations overseas and reduce their foreign exchange costs. However, it does seem clear that any further substantial reductions, beyond the levels projected in the table, could be effected only through a major realignment of our forces overseas.

The cash receipts projected for the FY 1964-1966 period, ranging from $1.1 - $1.3 billion, represent particularly ambitious goals in view of the fact that the FY 1962 and FY 1963 amounts reflect an abnormal, one-time receipt of about $460 million and that, as late as July 1963, we were projecting receipts at only about $1 billion annually for the period. Moreover, the amounts in the table do not include the balance of payments effects of barter transactions, which might also have been shown as an additional receipt offsetting our expenditures. These "receipts" have been increasing steadily and are conservatively estimated to reach about $60 million annually by FY 1966.

The following are some of the specific measures we are taking to reduce the net adverse impact of Defense expenditures abroad:

a. Military assistance offshore procurement has been restricted essentially to the fulfillment of prior commitments and thus by FY 1966 we anticipate these expenditures, about $64 million, to be little more than half the FY 1964 level.

b. The number of overseas headquarters personnel was reduced by about 2,600 during FY 1964; we are also reducing overseas logistical support activities with further significant reductions in personnel and savings in foreign exchange costs.

c. Employment of foreign nationals was reduced by over 28,000 in FY 1964, and we will be making additional, though smaller, reductions during the current fiscal year.

d. Advantage is being taken of the growing capabilities of our allies to assume certain functions now performed by U.S. forces. In Spain and Japan, for example, certain air defense responsibilities already have been transferred thus permitting withdrawal of some U.S. forces to the U.S.

e. Our effort to maintain and, if possible, increase our receipts from military sales is being continued on an intensified basis. As I noted last year, while a number of countries are making or contemplating purchases of U.S. military goods and services, by far the largest and most important is the agreement with the Federal Republic of Germany to offset our military expenditures in Germany with equivalent military purchases from the U.S. This agreement has recently been extended to cover our expenditures through the end of CY 1966. During FY 1964 our cash receipts from Germany (including the direct purchase of military material from U.S. producers) were approximately $750 million; receipts from France, about $110 million; from Italy, about $70 million; and

from Australia, U.K. and Canada in the range of $50 to $65 million each. Among some of the major military items included in these transactions were HAWK, SERGEANT and PERSHING missile systems for Germany; the M-113 armored personnel carriers and the HAWK and TERRIER/TARTAR missile systems for Italy; and KC-135 refueling tankers for France. In addition, as reported last year, a number of cooperative logistics support arrangements have been consummated or are in negotiation, the most important again with the Federal Republic of Germany. In addition to the balance of payments benefits, these arrangements provide an excellent opportunity for increased standardization of equipment and common logistics procedures among Allied nations, particularly those in NATO.

II. STRATEGIC OFFENSIVE AND DEFENSIVE FORCES

This year for the first time we are including in a single chapter the discussion of the three major programs which constitute our general nuclear war forces: The Strategic Offensive Forces, the Continental Air and Missile Defense Forces, and Civil Defense.

I have made this change, not as a matter of style, but, rather to facilitate our analysis of the general nuclear war problem. It was clear last year that because of the close inter-relationship and, indeed, the inter-action of the three major components of our general nuclear posture, the only practical way to deal with this problem is to incorporate all three components in a single analytical framework. Only then can the true character of the general nuclear war problem in all its dimensions be fully grasped and the relative merits of available alternatives be properly evaluated.

A. NATURE OF THE GENERAL NUCLEAR WAR PROBLEM

Because of its crucial importance to a discussion of our national security, I believe it would be useful to review briefly the nature of general nuclear war -- even at the risk of covering ground with which many of the members of this Committee are fully conversant.

For purposes of this discussion, we can define general nuclear war as a war in which strategic nuclear weapons are launched against the homelands of the United States and the Soviet Union. Such attacks might be directed against military targets only, against cities only, or against both types of targets, either simultaneously or with a delay. They might be selective in terms of specific targets attacked or they might be general.

In such a war, the following types of strategic forces would be involved:

1. Strategic Offensive Forces
   - Manned bombers, strategic reconnaissance aircraft, ICBMs and submarine-launched missiles, and their associated support forces and command and control systems.

2. Strategic Defensive Forces
   - Anti-aircraft defenses: manned interceptors; surface-to-air missiles; and their associated warning and control systems (including a capability against air breathing missiles).

- Anti-ballistic missile defenses: anti-missile missiles together with the associated sensing, data processing and communications systems; and the anti-submarine warfare forces directed against enemy missile launching submarines, together with the associated sound surveillance systems.
- Anti-satellite defenses: Interceptor missiles and the space detection and tracking systems.

3. Civil Defense Programs
   - Fallout shelters, warning, etc.

The strategic objectives of our general nuclear war forces are:

1. To deter a deliberate nuclear attack upon the United States and its allies by maintaining a clear and convincing capability to inflict unacceptable damage on an attacker, even were that attacker to strike first;

2. In the event such a war should nevertheless occur, to limit damage to our population and industrial capacity.

The first of these capabilities we call "Assured Destruction", i.e., the capability to destroy both the Soviet Union and Communist China as viable societies, even after a well planned and executed surprise attack on our forces. Or, in the words of the Joint Chiefs of Staff:

> ". . . the assured capability of destroying singly or in combination, the Soviet Union and the Communist satellites in Europe as national societies. In combination with theatre nuclear forces . . . [the ability] to impose adequate punishment on Red China for nuclear or non-nuclear aggression."

The second capability we call "Damage Limitation", i.e., the capability to reduce the weight of the enemy attack by both offensive and defensive measures and to provide a degree of protection for our population against the effects of nuclear detonations.

While, for the most part, I will be discussing general nuclear war from the point of view of the United States, it is important to note that we are actually dealing here with a two-sided problem. Assuming that both sides have the same general strategic objectives, which I believe to be the case, our Assured Destruction problem is the Soviet Union's Damage Limiting problem, and our Damage Limiting problem is

their Assured Destruction problem. The significance of this point will become more apparent when we discuss the possible interactions between the U.S. and Soviet offensive-defensive programs later in this section.

Viewed in this light, our Assured Destruction forces would include a portion of the ICBMs, the submarine-launched ballistic missiles (SLBMs) and the manned bombers. The Damage Limiting forces would include the remainder of the strategic offensive forces (ICBMs, SLBMs and manned bombers), as well as area defense forces (manned interceptors and anti-submarine warfare forces), terminal defense forces (anti-bomber surface-to-air missiles and anti-ballistic missile missiles), and passive defenses (fallout shelters, warning, etc.). The strategic offensive forces can contribute to the Damage Limiting objective by attacking enemy delivery vehicles on their bases or launch sites, provided that our forces can reach them before the vehicles are launched at our cities. Area defense forces can destroy enemy vehicles enroute to their targets before they reach the target areas. Terminal defenses can destroy enemy weapons or delivery vehicles within the target areas before they impact. Passive defense measures can reduce the vulnerability of our population to the weapons that do impact.

It is generally agreed that a vital first objective, to be met in full by our strategic nuclear forces, is the capability for Assured Destruction. Such a capability would, with a high degree of confidence, ensure that we could deter under all foreseeable conditions a calculated, deliberate nuclear attack upon the United States. What kinds and amounts of destruction we would have to be able to inflict on the Soviets in order to provide this assurance cannot be answered precisely. But, it seems reasonable to assume that the destruction of, say, 25 percent of its population (roughly 50 million people) and two-thirds of its industrial capacity would mean the elimination of the Soviet Union as a major power for many years. Such a level of destruction would certainly represent intolerable punishment to any industrialized nation and thus should serve as an effective deterrent.

Once high confidence of an Assured Destruction capability has been provided, any further increase in the strategic offensive forces must be justified on the basis of its contribution to the Damage Limiting objective. Here, certain basic principles should be noted.

First, against the forces we expect the Soviets to have during the next decade, it would be virtually impossible for us to be able to provide anything approaching perfect protection for our population no matter how large the general nuclear war forces we were to provide, even if we were to strike first. Of course, the number of fatalities would depend on the size and character of the Soviet attack as well as

on our own forces. But the Soviets have it within their technical and economic capacity to prevent us from achieving a posture that would keep our immediate fatalities below some level -- 25 percent or possibly more. They can do this, for example, by offsetting any increases in our defenses by increases in their missile forces. In other words, if we were to try to assure survival of a high percent (e.g., 80 or more) of our population, and if the Soviets were to choose to frustrate this attempt because they viewed it as a threat to their Assured Destruction capability, the extra cost to them would appear to be substantially less than the extra cost to us.

Second, since each of the three types of Soviet strategic offensive systems (land-based missiles, submarine-launched missiles and manned bombers) could, by itself, inflict severe damage on the United States, even a "very good" defense against only one type of system has limited value. A "very good" defense against bombers, for example, could be outflanked by targeting missiles against those areas defended solely by anti-bomber systems. This is the principal reason why, in the absence of an effective defense against missiles, the large outlays for manned bomber defenses made during the 1950s now contribute disproportionately little to our Damage Limiting capabilities. A meaningful capability to limit the damage of a determined Soviet attack, therefore, requires an integrated, balanced combination of strategic offensive forces, area defense forces, terminal defense forces and passive defenses. Such a structure would provide a "defense in depth", with each type of force taking its toll of the incoming weapons, operating like a series of filters or sieves, progressively reducing the destructive potential of the attack.

Third, for any given level of enemy offensive capability, successive additions to each of our various systems have diminishing marginal value. While it is true that in general the more forces we have, the better we can do, beyond a certain point each increment added to the existing forces results in less and less additional effectiveness. Thus, we should not expand one element of our Damage Limiting forces to a point at which the extra survivors it yields per billion dollars spent are fewer than for other elements. Rather, any given amount of resources we apply to the Damage Limiting objective should be allocated among the various elements of our defense forces in such a way as to maximize the population surviving an enemy attack. This is what we mean by a "balanced" Damage Limiting force structure.

The same principle holds for the Damage Limiting force as a whole; as additional forces are added, the incremental gain in effectiveness diminishes. When related to our other national needs, both

military and non-military, this tendency for diminishing marginal returns sets a practical limit on how much we should spend for Damage Limiting programs. Accordingly, the question of how much we should spend on Damage Limiting programs can be decided only by carefully weighing the costs against expected benefits.

Pervading the entire Damage Limiting problem is the factor of uncertainty of which there are at least three major types -- technical, operational and strategic. Technical uncertainties stem from the question of whether a given system can be developed with the performance characteristics specified. Operational uncertainties stem from the question of whether a given system will actually perform as planned in the operational environment.

The third type, strategic uncertainty, is perhaps the most troublesome since it stems from the question of what our opponent or opponents will actually do -- what kind of force they will actually build, what kind of attack they will actually launch, and how effective their weapons will actually be. What may be an optimum defense against one kind of attack may not be an optimum defense against a different kind of attack. For example, within a given budget, a NIKE X defense optimized for an attack by 200 ICBMs would defend more cities with fewer interceptor missiles than a defense optimized for an attack by 600 ICBMs. Similarly, a NIKE X defense optimized against an attack by ICBMs with simple penetration aids would have fewer high cost radars than one optimized against an attack by ICBMs with more advanced penetration aids. Thus, for a given cost, the efficiency of our defense depends upon the correctness of the assumptions we make during the design of these defenses and about the size and character of enemy attack.

In the same way, the effectiveness of our strategic offensive forces in the Damage Limiting role would be critically dependent on the timing of a Soviet attack on U.S. urban targets. Our missile forces would be most effective against the Soviet bombers and ICBMs if the attack on our urban centers were withheld for an hour or more -- an unlikely contingency. Our manned bomber forces would be effective in the Damage Limiting role only if the Soviet attack on our urban centers were withheld for eight hours or more.

To reduce the technical uncertainties, we rely on painstaking studies and research and development tests; and to hedge against the risks of technical failure, we support parallel development approaches. We try to cope with the operational uncertainties by repeated testing in a simulated operational environment. We hedge against the strategic uncertainties by accepting a less than optimum defense against any one form of attack in order to provide some defense against

several forms of attack, and by purchasing "insurance", i.e., keeping open various options -- to develop and deploy, for example, a new bomber, a new interceptor, or an anti-missile defense system.

How far we should go in hedging against these various uncertainties is one of the most difficult judgments which have to be made. Analytical techniques can focus the issue but no mechanical rule can substitute for such judgments.

With these factors in mind, we can now examine the capabilities of the planned general nuclear war forces in the light of our two strategic objectives -- Assured Destruction and Damage Limitation.

B. CAPABILITIES OF THE PROGRAMED FORCES FOR ASSURED DESTRUCTION

In order to assess the capabilities of our general nuclear war forces over the next several years, we must take into account the size and character of the forces the Soviets are likely to have during the same period. As I pointed out in past appearances before this Committee, such long range projections of enemy capabilities are, at best, only informed estimates, particularly since they deal with a period beyond the production and deployment lead times of the weapon systems involved. Nevertheless, certain development and deployment patterns which have already become apparent make it possible to identify likely future trends, at least in their broad outline.

1. The Soviet Strategic Offensive-Defensive Forces

By and large, the current estimates of Soviet strategic forces projected through mid-1970, which are summarized in the table below, are of the same order of magnitude as the projections through mid-1969 which I discussed here last year:

U.S. VS. SOVIET STRATEGIC NUCLEAR FORCES

[redacted]

a. Intercontinental Ballistic Missiles

At mid-1967, we estimate the Soviet Union will have between [redacted] missiles on launchers, excluding those at the test ranges. This compares with the [redacted] estimated last year for mid-1967. By mid-1970, this force is expected to grow to [redacted] Last year we estimated that the Soviets would have [redacted] by mid-1969.

The present Soviet ICBM force consists primarily of SS-7s, a small number of the later SS-8s and a very few of the first generation SS-6s. The SS-6 is a non-storable liquid fuel missile with an estimated gross lift-off weight of [redacted] lbs and a CEP of [redacted]. The SS-7 has storable liquid fuel, a lift-off weight of [redacted] lbs and a CEP of [redacted] The SS-8 has non-storable liquid fuel, lift-off weight of [redacted] lbs and a CEP of about [redacted]

The SS-7s and 8s are deployed in both a soft and a hard configuration: two launchers per soft site plus probably one refire

missile; and three silos per hard site and probably no refire missiles. Our own experience suggests that the design hardness of their silos would fall in the range of [redacted] psi compared with 300 psi or more for our silos. The deployment of the SS-8 now appears to have been curtailed. Last year we estimated that this missile had a very large payload. We now believe its payload is similar to the SS-7 and that both missiles currently have a warhead with a yield of about [redacted] (The old SS-6 has a warhead yield of [redacted]) We believe that the SS-7s entering the force this year may carry a warhead with a yield of about [redacted] and that some of the missiles already deployed may also be retrofitted with this warhead.

The Soviets are also working on a follow-on missile, designated the SS-9, which is expected to become operational in 1965. Probably larger than the SS-7/SS-8, the SS-9 might carry a warhead with a yield as high as [redacted] We expect that this missile will be deployed in a one silo per site hard configuration.

The SS-10, another new system about which we have little information, is currently undergoing tests. This system could also become operational in late 1965. The Soviets are still far behind us in solid fuel technology and have yet to deploy any kind of longer range solid fuel missile.

b. MRBMs/IRBMs

The Soviets appear to have leveled off their MRBM (1020 n.mi) and IRBM (2200 n.mi.) programs at about 750 launchers, about the same level estimated last year. This force is deployed in a four launcher per site soft configuration (plus a re-fire capability), a three launcher per site configuration for the hardened IRBMs, and a four launcher per site configuration for the hardened MRBMs. We expect that the warhead yields of Soviet MR/IRBMs will be in the kiloton to the [redacted] MT range. There is no evidence of a follow-on MR/IRBM development.

c. Submarine Launched Ballistic Missiles

The trend in Soviet submarine construction is not very clear. There is some evidence that the construction of the ballistic missile G- and H-class submarines has stopped. Almost all Soviet ballistic missile submarines are equipped with the 350 n.mi. ballistic missile which has a yield of [redacted] MT. The submarine must surface to fire.

One G-class submarine has recently been converted to serve as a

test vehicle for the 700 n.mi. submerged-launch ballistic missile. The Soviets will probably retrofit all of their present force of H-class submarines and at least some G-class submarines with the 700 n.mi. ballistic missile. The Soviets also have under construction a submarine which is estimated to be the first of a new, nuclear-powered ballistic missile class. The first unit of this new class probably will enter service during 1965 and may carry more missiles than the three carried by the G and H classes -- possibly four to eight. By mid-1970, the Soviet force could have the capability of carrying between 157-248 ballistic missiles, about the same level estimated last year for mid-1969.

d. Manned Bombers

There is no evidence that the Soviets are developing a new heavy bomber. Barring this possibility, the projected reduction in both the heavy and medium bomber and tanker forces will continue, reaching a level of 430-690 bombers/tankers by 1970. The output of BLINDER medium bombers, the only bomber we believe is still in production, will probably continue to be shared between long range and naval aviation and it is believed that in 1970 there will be some 200-300 of these bombers in the Long Range Aviation forces. Most of the BADGER medium bombers will have been phased out by that time.

Currently it is estimated the BADGER medium bombers do not figure prominently in Soviet plans for an initial bomber attack against North America. Nevertheless, considering the requirements for Arctic staging and refueling, as well as non-combat attrition factors, it is believed that at present up to 150 BADGERs could arrive over North American target areas on two-way missions. The combat radius of these bombers would limit such attacks to targets in Greenland, Canada, Alaska, and the extreme northwestern U.S. The short range of the BLINDER medium bomber makes it even less suitable than the BADGER for attacks against North America. At present it is estimated that the Soviets could put somewhat over 100 heavy bombers over target areas in the U.S. on two-way missions. However, the use of Soviet heavy bombers in maritime reconnaissance roles leads to the belief that a few of these aircraft might be diverted to that mission.

e. Manned Bomber Defense

The Soviets, over the past ten years, have made very large investments in anti-bomber defenses. After a marked buildup in the manned interceptor force during the 1950s, the inventory has since

been gradually declining, a trend we expect to be accelerated in future years. At mid-1964, we estimated the Soviets had [redacted] interceptors, down from 4275-4960 at mid-1961. Although we estimate that there will be continuing delivery of small numbers of current model interceptors over the next several years, the total inventory is expected to drop to a level of about [redacted] aircraft by mid-1970 as the older models are phased out.

We believe that the buildup of the Soviet SA-2 surface-to-air missile force, which has been under way for some years, is now leveling off at about [redacted] sites. This second generation missile is moderately effective against bombers at medium and high altitudes but of limited effectiveness against low altitude attacks. The deployment of the SA-3 missile, which is apparently designed to engage low altitude penetrators, is still continuing on a modest scale. Present deployments of this system suggest that it will most likely be employed in comparatively limited numbers as a supplement to the existing SA-2 defense complex.

f. Ballistic Missile Defenses

We had previously stated that the Soviets appeared to be constructing an anti-missile defense system at Leningrad which might be operational as early as mid-1965 and possibly one at Moscow to be operational about mid-1967. Although there is considerable uncertainty, evidence indicates that the Leningrad system may well have a capability primarily against aerodynamic vehicles rather than ballistic missiles. A large radar at Moscow, apparently phase-array, appears to be associated with their satellite tracking efforts. However, these statements must be considered provisional, pending additional evidence.

2. Adequacy of Our Strategic Offensive Forces for Assured Destruction

In evaluating our Assured Destruction capability, it is helpful to note the distribution of the population and industry in the Soviet Union.

[redacted]

Cumulative Distribution of Estimated 1970 Population and Industry by Size of Urban Area

Rank	USSR Population (Millions)	USSR Population (% of Total)	USSR Industrial Capacity (% of Total)	U.S. Population (Millions)	U.S. Population (% of Total)	U.S. Industrial Capacity (% of Total)
1	7.3	3.0	8.2	12.4	5.9	6.6
2	11.1	4.5	13.1	21.4	10.4	12.5
3	12.6	5.2	14.8	28.6	13.6	17.5
10	20.3	8.3	25.0	52.8	25.1	33.1
20	28.8	11.8	36.0	70.1	33.5	44.2
50	44.7	18.3	52.0	97.5	46.5	58.0
100	58.7	24.0	64.0	112.0	57.0	69.6
150	67.0	27.4	69.0	130.0	62.0	75.8
200	73.4	30.0	73.0	136.0	65.0	80.3

(Note: The total population base for the Soviet Union was taken to be the projected 1970 population of 240 million, whereas the total population base for the U.S. was the 1970 projected base of 210 million.)

The ten largest urban areas in the Soviet Union will account for about one-fourth of the industrial capacity compared with one-third in the United States. But this disparity in the degree of industrial concentration narrows when larger numbers of urban areas are considered. Thus, in both countries, about three-fourths of the industrial capacity will be located in the 200 largest urban areas.

The destructive potential of a nuclear attack on the Soviet Union may be seen in the table below (the destructive potential of a Soviet attack on the United States will be taken up later).

[redacted]

Soviet Population [redacted]
As a Function of Delivered Warheads
(Assumed total population of 240 million;
urban population of 140 million)

[redacted]

In the above table, we have assumed that the delivered warheads would have a yield of one MT, which is the approximate size of both the [redacted] warheads. To assess the difference which a fallout shelter program might make, we have calculated the destructive potential of various size attacks: first, on the basis that only the existing level of fallout protection in the Soviet Union, which we believe to be minimal, would be continued; and second, on the basis that a new nation-wide fallout shelter system would be constructed.

Perhaps the most important point to be noted from this table is that 200 [redacted] warheads, delivered on Soviet urban areas so as to maximize fatalities, would kill almost 50 million people and destroy nearly two-thirds of the industrial capacity of the Soviet Union.

If the number of delivered warheads were quadrupled to 800, the proportion of the total population destroyed would only be doubled and the proportion of industrial capacity destroyed would be increased by only one-sixth. Further increases in the number of warheads delivered produce smaller and smaller increases in the percentage of the population destroyed and negligible increases in the industrial capacity destroyed. This is so because we would have to bring under attack smaller and smaller cities, each requiring one delivered warhead. In fact, when we go beyond about 850 delivered warheads, we would be attacking cities of less than 20,000 people.

Based on the projected Soviet threat for the early 1970s and the most likely planning factors for that time period, our calculations show that even after absorbing a Soviet first strike, we could, if we wished, target the already authorized strategic missile force just against Soviet population centers and cause about 105 million fatalities and destroy about 80 percent of their industrial capacity.

If we were also to target our manned bombers in a follow-on attack against their urban areas, we would increase fatalities by ten to 15 million and industrial destruction by another percent or two. The 600 additional weapons which these bombers could deliver would, for the most part, have to be targeted against cities of only ten to twenty thousand population. Within limits, these predictions of our Assured Destruction capability would not be substantially affected by changes in the presently projected size of the Soviet ICBM force.

As for Communist China, during the program period, our theatre forces alone should be able to inflict the level of destruction required. However, if [redacted] missiles were employed, 100 missiles attacking the largest 50 Communist Chinese cities would kill about 45 million, including 70 percent of the urban population, and destroy 75 percent of the industrial capacity. Although the number of fatalities would be small compared with the very large population of China, such an attack would destroy most of the key governmental, technical and managerial personnel and a large proportion of the skilled workers.

I believe it is clear from these figures that, based on expected operational characteristics, only a portion (perhaps half) of our total ICBM and POLARIS force (1710 missiles) and none of the strategic bombers would be required to inflict on the Soviet Union and Communist China unacceptably high levels of destruction. The remaining elements of the strategic offensive forces have been procured because it is believed they, along with our air defense forces, will limit damage to the U.S. in the event deterrence fails. The requirement for strategic offensive forces for this purpose and their relationship to the defensive forces (aircraft and missile defenses, fallout shelters, etc.) will be discussed later.

The fact that the programed missile force alone -- if used solely to create damage to the population and industry of the Soviet Union and China -- more than provides an adequate capability for Assured Destruction does not mean that the Assured Destruction job might not be done more efficiently by bombers alone or with higher assurance by a mix of bombers and missiles. To test the first possibility, i.e., using bombers alone, we have examined the comparative cost and effectiveness of four alternative strategic offensive systems which could be available by the early 1970s -- MINUTEMAN, POLARIS, B-52/SRAM and AMSA/SRAM (SRAM is a new air-to-ground missile; AMSA is the new bomber proposed by the Air Force). Each system was separately targeted against the Soviet urban/

industrial complex so as to bring under attack about 150 cities containing one-quarter of the population and two-thirds of the industrial capacity. Using the operational factors expected for the early 1970s, any one of the following forces alone could, with a high degree of confidence, destroy the 150-city target complex:

(a) MINUTEMAN: 540 operational launchers, with a total 5-year systems cost of about $2.5 billion. If the Soviets were to deploy an anti-missile defense system around 15 of their larger cities and if the Soviets assigned 300 of their ICBMs to attack our MINUTEMAN force, 950 operational launchers would be required, with a 5-year systems cost of $4.5 billion.

(b) POLARIS: 640 POLARIS A-2/A-3 missiles, with a 5-year systems cost of $4 billion. If the Soviets were to deploy an anti-missile defense around 15 of their larger cities, an additional ten submarines carrying an improved missile (POSEIDON) would be required with a 5-year systems cost for the entire force of about $6 billion.

(c) B-52/SRAM: 160 operationally deployed aircraft, with a total 5-year systems cost of about $2 billion, assuming alert aircraft survive the initial attack. If the Soviets were to deploy an improved anti-bomber defense (with the same effectiveness the Army estimates for an advanced anti-bomber system we currently have under study), 500 deployed aircraft would be required with a 5-year systems cost of about $5.5 billion.

(d) AMSA/SRAM: 100 operationally deployed aircraft with a 5-year systems cost of $6.0-7.0 billion, again assuming alert aircraft survive. If the Soviets were to deploy the improved anti-bomber defense system cited above, and if only 50 percent of the AMSAs could be maintained on ground alert, 350 operationally deployed aircraft would be required with a 5-year systems cost of $16-18 billion.

The four alternative programs and their approximate costs are summarized below:

	(In Billions) Existing Soviet Defenses	Improved Soviet Defenses
MINUTEMAN 1/	$ 2.5	$ 4.5
POLARIS 1/	4.0	6.0
B-52/SRAM 2/	2.0	5.5
AMSA/SRAM	6.0 - 7.2	16.0-18.0

1/ 5-year systems costs consist of the remaining R&D and investment costs (including missile replacement) for FY 1966 through 1970, plus five full years of operating cost.

2/ 5-year costs consist of all modification costs (including life extension of the B-52G and H) from FY 1966 through 1970, the development and procurement of SRAM, and five full years of operating cost.

It is clear that AMSA would be the most expensive way of accomplishing this particular task.

This leaves the second question to be answered -- would a mixed force of bombers and missiles provide greater confidence that we could achieve our Assured Destruction objective? There are two principal arguments usually advanced to support the case for a mixed missile and bomber force.

a. Complicating the Enemy's Defensive Problem - It is clear that as long as we have strategic aircraft the enemy cannot effectively defend himself against ballistic missiles without concurrently defending himself against the aircraft and their air-to-surface missiles (ASM). Conversely, defense against aircraft without concurrent defense against ballistic missiles also leaves him vulnerable. [redacted] In the absence of a bomber threat, the Soviets could re-allocate these resources to their strategic offensive forces, or their anti-missile defenses or some other military program which might cause us even greater difficulties. [redacted]

This fact, however, does not necessarily argue for a large bomber force. Most of the major elements of cost in an anti-aircraft defense system (e.g., the ground environment and part of the interceptor force) are quite insensitive to the size of the opposing bomber force. The

requirement for surface-to-air missiles is a function of the number of targets to be defended rather than the number of attacking bombers. Since the Soviets would not know in advance which targets our bombers would attack, they would have to continue to defend all of the targets. Accordingly, their expenditures for air defense are likely to be about the same regardless of whether we have a relatively small bomber force or a large one.

b. Hedging Uncertainties in the Dependability of our Strategic Offensive Forces - The percentage of the "Unit Equipment" of a particular system which can be depended upon to penetrate to the target is termed the System Dependability Rate. There are four major factors which determine this rate: readiness, survivability, reliability and penetration. The readiness (alert) rate is the proportion of the operational force which can immediately respond to an execution order; the pre-launch survival rate is the proportion of the alert operational force which is expected to survive an enemy attack in operating condition; the reliability rate is the probability that the surviving "alert" missiles or aircraft will operate successfully, exclusive of enemy defensive action; the penetration rate is the probability that a reliable system will survive enemy defenses to detonate its warhead.

The readiness and reliability rates of our MINUTEMAN and POLARIS missiles are good and improving. We are providing substantial amounts of money for extensive testing programs. There can be no reasonable doubt that, for the time period in question, the readiness and reliability of these systems will be fully satisfactory.

Having completed its 24-shot operational test program in 1963 with a very good score, the POLARIS A-2 had 100 percent success in the eight follow-on tests conducted in 1964. Well over 200 weapon system readiness tests were conducted aboard submarines on patrol during 1964 and 95 percent of the missiles were found ready for launch within the allotted time.

The POLARIS A-3 had 19 successes out of 20 demonstration and shakedown firings. Operational testing is scheduled to begin later this year.

Of the 54 MINUTEMAN I operational tests conducted to date, 74 percent have been successful. Readiness inspections conducted last year found MINUTEMAN I able to count down successfully 98 percent of the time. MINUTEMAN II has completed four of its development firings -- all successful.

Shown below is a comparison of the System Dependability Rates of the three strategic weapon systems which constitute the bulk of our Strategic Offensive Forces today.

Systems Dependability Under <u>Assumed</u> Retaliatory Conditions
(<u>Alert Force Increment</u>, January 1, 1965)

[redacted]

With regard to survival, it is highly unlikely that the Soviets, even by the early 1970s, would be able to destroy any significant number of POLARIS submarines at sea. I am convinced that they do not have this capability now. Nor is it likely that they would be willing to commit the extremely large amounts of resources required to achieve an effective capability in the future, especially in view of the range

of our POLARIS missiles. Since the Soviet intercontinental missile force, estimated at 400-700 launchers in mid-1970, will face over 1,000 hardened and dispersed U.S. ICBMs, I believe that our land-based missiles also have high survival potential.

I am not as confident of the survival potential of our aircraft. If, for any of a number of reasons, they are not launched within the BMEW's warning time, they could be caught on their home bases by an enemy ICBM or SLBM attack.

With regard to penetration, the deployment of an effective Soviet anti-ballistic missile system could degrade the capability of our current missiles. However, it appears unlikely that the Soviets will deploy in this decade or the early 1970s a system having the potential effectiveness of even the NIKE X. If and when the Soviets deploy anti-ballistic missile defenses, our penetration aids and multiple warheads should keep the "entry price" of missile attacks against defended targets within tolerable limits. ("Price" is defined as the number of missiles that must be placed over the defended target area to ensure that the target is destroyed.)

Aircraft also will face penetration difficulties. Our studies have shown that an effective anti-bomber defense is a necessary complement to an anti-missile defense and that the two should have an "inter-locked" deployment to avoid obvious vulnerabilities. The cost of an effective anti-bomber defense appears to be much less than the cost of a comparably effective anti-missile defense.

In summary, I see little merit to the argument that bombers are needed in the Assured Destruction role because our missiles are not dependable. But I do recognize that presently unforeseeable changes in the situation may occur against which a bomber force might possibly provide a hedge. Therefore, as will be discussed later, I propose to retain the option to maintain indefinitely bomber units in our Strategic Offensive Forces.

C. CAPABILITIES OF THE PROGRAMED FORCES FOR DAMAGE LIMITATION

The ultimate deterrent to a deliberate Soviet nuclear attack on the United States is our clear and unmistakable ability to destroy the Soviet Union as a viable society. But if deterrence fails, whether by accident or miscalculation, it is essential that forces be available to limit the damage of such an attack to ourselves and our Allies.

The utility of the Strategic Offensive Forces in the Damage

Limiting role is critically dependent on the timing of the Soviet attack on U.S. urban targets. For example, if a Soviet missile attack on U.S. cities were to be delayed for one hour or more after an attack on U.S. military targets (an unlikely contingency), our strategic missiles (which can reach their targets in the Soviet Union in less than one hour) could significantly reduce the weight of that attack by destroying prior to launch a large part of the Soviet forces withheld for use against our cities.

If a Soviet missile attack on cities were to be delayed for eight hours or more after the attack on military targets, our bomber force could also contribute to this objective. However, if the Soviets were to launch their attack against our urban areas at the beginning of a general nuclear war, our Strategic Offensive Forces -- both missiles and bombers -- would have a greatly reduced value in the Damage Limiting role. Their contribution in that case would be limited to the destruction of Soviet residual forces -- unlaunched strategic missiles and bombers, re-fire missiles, and any other strategic forces the Soviets might withhold for subsequent strikes.

Since we have no way of knowing how the Soviets would execute a nuclear attack upon the United States, we must intensively explore alternative "defensive" systems as means of limiting damage to ourselves. The problem here is to achieve an optimum balance among all the elements of the general nuclear war forces, particularly in their Damage Limiting role. This is what we mean by "balanced" defense.

Although a deliberate nuclear attack upon the United States by the Soviet Union may seem a highly unlikely contingency in view of our unmistakable Assured Destruction capability, it must receive our first attention because of the enormous consequences it would have.

To appreciate fully the implications of a Soviet attack on our cities, it is useful to examine the Assured Destruction [redacted]

United States Population and Industry Destroyed
As a Function of Delivered Warheads
(Assumed 1970 total population of 210 million, urban population of 150 million)

Delivered Warheads (10 MT)	Ltd. Fallout Protection: Urban (Millions)	(%)	Total (Millions)	(%)	Nation-Wide Fallout Program: Urban (Millions)	(%)	Total (Millions)	(%)	Ind. Cap. (%)
100	79	53	88	42	49	33	53	25	39
200	93	62	116	55	64	43	74	35	50
400	110	73	143	68	80	53	95	45	61
800	121	81	164	78	90	60	118	56	71

Several points are evident from the above table. First, it is clear that with limited fallout protection, a Soviet attack on our urban areas consisting of even 100 delivered warheads (each with a 10 MT yield) would cause great loss of life -- 79 million fatalities in the areas attacked and 88 million fatalities nation-wide or 42 percent of the total population. The high level of fatalities from 100 delivered warheads reflects the heavy concentration of population in our large cities. The diminishing return from larger numbers of delivered warheads simply reflects the fact that smaller and smaller cities would have to be targeted as the scale of the attack was raised. Second, the table clearly demonstrates the distinct utility of a nation-wide fallout shelter program in reducing fatalities, at all levels of attack. Third, the table shows that 100 delivered warheads would destroy about 39 percent of our industrial capacity. Each successive doubling of the number of delivered warheads would increase the destruction of our industrial capacity by only ten percentage points.

In order to assess the potential of various Damage Limiting programs we have tested a number of "balanced" defense postures at different budget levels. These postures are designed to defend against an assumed Soviet threat in the early 1970s consisting of 240 soft ICBM launchers, 387 hard ICBM launchers, 230 submarine-launched ballistic missiles, 140 heavy bombers and 200 medium bombers. In general, these figures lie well within the range of the estimates for mid-1970, which I discussed earlier.

In order to illustrate the critical nature of the timing of the Soviet attack, we used two limiting cases. First, we assumed that the Soviets would initiate nuclear war with a simultaneous attack against our cities and military targets. Second, we assumed

that they would delay their attack against our cities for at least one hour -- the time it would take for us to retaliate against their military targets with our missiles.

In both cases, we assumed that all new systems will perform essentially as estimated since our main purpose here was to gain an insight into the overall problem of limiting damage.

The results of this analysis are summarized in the table below.

Estimated Effect on U.S. Fatalities of Additions to the Approved Damage Limiting Program
(Based on 1970 population of 210 million)

Additional Investment	Millions of U.S. Fatalities: Early Urban Attack	Millions of U.S. Fatalities: Delayed Urban Attack
$ 0 billion	149	122
5 billion	120	90
15 billion	96	59
25 billion	78	41

The $5 billion of additional investment (of which about $2 billion would come from non-Federal sources) would provide a full fallout shelter program for the entire population. The $15 billion level would add about $8-1/2 billion for a limited deployment of a low cost configuration of a missile defense system, plus about $1-1/2 billion for new manned bomber defenses. The $25 billion level would provide an additional $8-1/2 billion for anti-missile defenses (for a total of about $17 billion) and another $1-1/2 billion for improved manned bomber defenses (for a total of $3 billion).

The utility of the strategic missiles in the Damage Limiting role depends entirely on the timing of the Soviet attack, i.e., on whether our missiles arrive before the enemy's vehicles are launched against our cities. Even in the case of a delayed attack, U.S. missiles targeted to destroy Soviet vehicles before launch do not show a high utility for their cost in the Damage Limiting role beyond the point where one reliable missile has been targeted against each Soviet long range aviation base and missile site (a total of not more than 460 aiming points in the early 1970s). The number of missiles required for this purpose are already included in the forces programed through 1970.

The table above demonstrates the very high utility of a full nation-wide fallout shelter program in the Damage Limiting role, regardless of the timing of the attack on urban areas. A transfer

[redacted]

of resources from fallout shelters to other defense systems would result in substantially less effective defense postures for any given budget level, as shown below:

Estimated Effect of Fallout Protection on U.S. Fatality Levels
For Several Damage Limiting Programs
(Based on 1970 total population of 210 million)

	Millions of U.S. Fatalities			
	Early Urban Attack		Delayed Urban Attack	
Additional Investment	Partial Protection	Full Protection	Partial Protection	Full Protection
$ 0 billion	149	149	122	122
5 billion	145	120	107	90
15 billion	121	96	79	59
25 billion	107	78	59	41

The figures indicate that in the case of an early attack on our urban centers, for the same level of survivors, any Damage Limiting program which excludes a complete fallout shelter system would cost at least twice as much as a program which includes such a system, even under the favorable assumption that the Soviets would not exploit our lack of fallout protection by surface bursting their weapons upwind of the fallout areas. Fallout shelters should have the highest priority of any defensive system because they decrease the vulnerability of the population to nuclear contamination under all types of attack. Against the wide range of urban/military attacks a complete fallout shelter system alone would save about 30 million lives (over and above the present partial protection) and, therefore, should be a first component of any larger Damage Limiting program.

At the $15 and $25 billion budget levels, the bulk of the additional funds would go to missile defense. A high confidence in the assumed effectiveness of the missile defense system would have to be assured before commitment to such large expenditures would be justified. At the higher budget levels, missile defenses would also have to be inter-locked with either local or area bomber defenses in order to avoid having one type of threat undercut a defense against the other.

Although missiles clearly have a better chance than bombers of destroying enemy offensive forces before they are launched, because they can reach them much sooner, we also examined the effectiveness of bombers in the Damage Limiting role. In one such analysis we compared a strategic aircraft -- the AMSA -- and two strategic missiles --

[redacted]

MINUTEMAN II and an improved missile for the 1970s. (This improved missile, which could be developed and deployed within the same time frame as the AMSA, would be able to carry multiple, independently-directed re-entry vehicles enabling a single missile to attack several different targets.) The results of this analysis are shown in highly summary form in the following table.

THE EFFECTIVENESS AND COSTS OF ALTERNATIVE STRATEGIC WEAPON SYSTEMS IN THE DAMAGE LIMITING ROLE

[redacted]

I recognize that there are many uncertainties with regard to both the assumptions and the planning factors used in this analysis. However, I believe that it does demonstrate clearly at least one important point, namely, that there are less costly ways of destroying Soviet missiles and aircraft before launch than by developing and deploying a new AMSA.

One final point should be noted with respect to this comparison of missiles and bombers in the Damage Limiting role. While the costs shown are those per target destroyed, no allowance has been made for the fact that the enemy missile silos and bomber fields are far more likely to be empty by the time the bombers pass over than when the missiles arrive.

With regard to the SLBM threat, only nominal funds were allocated to extra anti-submarine defense for Damage Limiting at each budget level, since the anti-ICBM defense could also cope with the SLBM threat. Full advantage would, of course, be taken of the ASW capabilities we have already for control of sea communications. Our reaction to an improved Soviet SLBM force could be (1) more ASW forces or (2) more terminal anti-ballistic missile defense or (3) more of each. The decision would be based on the nature of the Soviet improvements and the ratio of the total SLBM threat to the total ICBM threat.

There remains the possibility of a small nuclear attack on the United States by a nation other than the Soviet Union. Since the next decade will probably see a proliferation of nuclear weapons and strategic delivery systems, and remembering that a single thermonuclear weapon could kill as many Americans as were lost in the entire Second World War, this may become an important problem. Accordingly, we have undertaken a number of studies in this area. Our preliminary conclusion is that a small, balanced defense program involving a moderate civil defense effort and a very low density deployment of a simplified configuration of the NIKE X system (which is technically feasible without commitment to a full-scale deployment) could, indeed, significantly reduce fatalities from such an attack. However, the only source of such an attack that we can now foresee would be Communist China, and the lead time for that nation to develop and deploy an effective ballistic missile system capable of reaching the United States is greater than we require to deploy the defense.

In summary, several important conclusions may be drawn from our analysis of the Damage Limiting problem:

(1) With no new U.S. defense against nuclear attack in the early 1970s, the Soviet strategic offensive forces would be able to inflict a very high level of fatalities on the United States -- about 100 to 150 million.

(2) A nation-wide civil defense program costing about $5 billion could reduce fatalities by about 30 million.

(3) A large, balanced Damage Limiting program for an additional $20 billion could reduce fatalities associated with an early urban attack by another 40 million -- to a level of about 80 million.

(4) There is no defense program within this general range of expenditures which would reduce fatalities to a level much below 80 million unless the Soviets delayed their attack on our cities.

Moreover, we have thus far not taken into account a factor which I touched on at the beginning of this discussion, and that is possible Soviet reactions which could serve to offset our Damage Limiting initiatives. Let me illustrate this point with the following example. Suppose we had already spent an additional $15 billion for a balanced, Damage Limiting posture of the type I described earlier, expecting that it would limit fatalities to 96 million in the event of a Soviet first strike against our cities. We then decide to spend another $10 billion to reduce the fatalities to 78 million. If the Soviets choose to offset this increase in survivors, they should be able in the 1970s to do so by adding about 250 improved ICBMs with penetration aids, at a cost of perhaps about $6 billion, or 60 percent of our cost.

At each successively higher level of U.S. expenditures, the ratio of our costs for Damage Limitation to the Soviet's costs for Assured Destruction becomes less and less favorable for us. Indeed, at the level of spending required to limit fatalities to about 42 million in a large Soviet first strike against our cities, we would have to spend on Damage Limiting programs about four times what the Soviets would have to spend on damage creating forces, i.e., <u>their</u> Assured Destruction forces.

[redacted], but it does underscore the fact that beyond a certain level of defense the cost advantage lies increasingly with the offense, and this fact must be taken into account in any decision to commit ourselves to large outlays for additional defensive measures. [redacted]

* * * * *

In the light of the foregoing analysis, it seems to me that there are six major issues involved in our FY 1966-1970 general nuclear war programs. These issues concern:

1. The development and deployment of a new manned bomber (estimated five-year systems cost for a force of 200 operational aircraft -- \$8.9 to \$11.5 billion).

2. The size of the strategic missile force (estimated five-year cost for an additional 200 MINUTEMAN II missiles -- \$1.3 billion).

3. The overall level of the anti-bomber defense program (estimated five-year cost if units proposed for phaseout are retained in the forces -- \$300 to \$350 million).

4. The production and deployment of a new manned interceptor (estimated five-year cost for force of 216 operational aircraft -- \$4 billion).

5. The production and deployment of the NIKE X anti-missile system (estimated five-year cost -- \$24 million).

6. The construction of fallout shelters for the entire population (estimated cost to individuals, state, local and Federal Government -- \$5 billion).

The first two issues are related to the Strategic Offensive Forces, the next three to the Strategic Defensive Forces and the last to the Civil Defense Program. I will discuss each of them in context with our other proposals for these three components of our general nuclear war posture.

D. STRATEGIC OFFENSIVE FORCES

The force structure proposed for the FY 1966-1970 period is shown on Table 2 of the set of tables attached to this statement. The format of this table is the same as that used last year except that the strategic reconnaissance aircraft are grouped together in a separate sub-category.

1. The Development and Deployment of a New Manned Bomber

I believe our analysis of the general nuclear war problem in the early 1970s clearly demonstrates that the destructive potential of our missile force alone should provide a most persuasive deterrent to a deliberate Soviet attack on the United States. Nevertheless, for reasons which I have already discussed, it would seem wise to keep open the option of continuing at least some manned bombers in our strategic offensive forces indefinitely, if need be. This we propose to do.

With appropriate maintenance and modification, the current B-52s can be operated, safely and effectively, through the early 1970s. About $1.8 billion has already been programed for the strengthening of the fuselage and tail structure, the provision of structural wing fasteners, flight safety modifications, capability improvements such as new radars and ECM equipment and depot maintenance. Another $339 million is included in our FY 1966 budget request for these purposes and roughly $930 million more will be required during the FY 1967-1970 period. On the basis of a detailed study of the problems involved, we are confident that the B-52Cs, Ds, Es, and Fs (currently numbering about 368 aircraft) can be safely and effectively operated through 1970-72; and the B-52Gs and Hs (currently numbering about 289 aircraft) beyond FY 1975.

Considering the present size of the B-52 force, 630 operational aircraft, and the continuing availability of two wings of B-58 medium bombers, we do not believe that the expenditure of about $70 million over the next few years to keep two B-52B squadrons (30 U.E. aircraft) in safe operating condition would be justified. These are the oldest and least effective B-52s. The two squadrons have been reflexed to Guam to replace the B-47s. Eight other B-52Bs are being used for training.

We now propose to phase out the latter in FY 1965. Additional B-52 aircraft will be activated out of available resources to carry on the training function. By end FY 1966, we will have five POLARIS submarines deployed in the Pacific and the B-52Bs on Guam will no longer be required and will be phased out. The elimination of the B-52Bs should save about $40 to $45 million a year in operating costs over and above the $70 million which would be required to keep them in a safe and effective condition -- and without any significant effect on our strategic offensive capability.

As shown on Table 2, this action would still provide a force of about 670 manned bombers in 1970. The B-52 force would continue to be equipped with HOUND DOG air-launched missiles, of which we will still have 520 in the operational inventory in 1970, even after providing for the necessary expenditure of missiles for the Combat Evaluation test program.

There are at least two other alternatives available to us, in addition to the immediate development of the AMSA, which would preserve the manned-bomber option for the period following withdrawal of the B-52 force. These are: (a) the procurement of a strategic version of the F-111 (i.e., a B-111), and (b) the initiation of advanced development work on long lead time components which would be needed for the AMSA as well as for other new combat aircraft.

A strategic version of the F-111 could carry up to five SRAMs, or an equivalent loading of bombs or a combination of both. Its speed over enemy territory would be supersonic at high altitudes and high subsonic at low altitudes. While a "B-111" force would have to place greater reliance on tankers than an AMSA force, its range (considerably better than the B-58), its target coverage and its payload carrying capability would be sufficient to bring under attack a very large share of the Soviet urban/industrial complex. Since the F-111 is already nearing production, and we plan to initiate development of the SRAM in the current fiscal year, a "B-111" could be made available in the early 1970s at a much lower cost than the AMSA, even if the decision to commence production is postponed for another two or three years.

The AMSA, as presently envisioned by its proponents, would incorporate the payload capabilities of the B-52 and the speed/altitude characteristics of the F-111. Its takeoff gross weight would be in the 350,000 pound class and it would require the development of a new engine and new avionics, as well as the SRAM.

However, Secretary Zuckert, in his memorandum transmitting the AMSA proposals to me, noted that the Air Force intends:

> ". . . to complete, prior to the initiation of the Project Definition Phase, a prerequisite phase which will further refine our systems evaluation. This phase will include further evaluation of an advanced strategic aircraft against the TFX, the stretched TFX, and a growth version of the TFX incorporating advanced engines. In addition, AMSA vehicles in the 200,000 to 300,000 pound weight class will be further investigated. Aircraft configured for subsonic penetration only will be compared with designs having supersonic high altitude performance as well as low-level capability. Each system configuration will be assessed in terms of performance, cost, schedule, military effectiveness, complexity, and development risks."

Considering the other alternatives available, the high cost of an AMSA fleet ($8.9 to $11.5 billion for the one proposed), the need to develop a new engine and avionics, the still-existing uncertainties as to the kind of new bomber we would want by the mid-1970s, and the remaining B-52 life which exceeds the lead-time required for development for new aircraft, I do not believe we are ready to go ahead with a full AMSA development at this time. But I do believe it would be desirable to keep open the option for developing such an aircraft as a replacement for the B-52s when they have to be retired.

We therefore propose:

(a) To continue our efforts to define the specifications and basic design approaches of several alternative strategic aircraft, a program requiring $5 million in FY 1965 and $3 million in FY 1966.

(b) To initiate an advanced avionics development program which would be applicable to current and future strategic and tactical combat aircraft, a program requiring $7 million in FY 1965 and $12 million in FY 1966.

(c) To initiate an advanced propulsion program which would be applicable to current and future high performance strategic and tactical combat aircraft, a program requiring $16 million in FY 1965 and $24 million in FY 1966.

(d) To initiate development of a new short range attack missile (SRAM), a program requiring $5 million in FY 1965 and $37 million in FY 1966. The total cost of this development is estimated at around $150 million. No decision needs to be made now on the production and deployment of this missile.

In FY 1965, the first three actions will require $28 million of the $52 million appropriated by the Congress for the development of advanced manned strategic aircraft. We propose to apply the remaining $24 million to the FY 1966 requirement, totaling $39 million. The balance of $15 million has been included in our 1966 budget request.

This four part program would permit full development and deployment of a new manned bomber in ample time to replace the B-52s in the mid-1970s, should that decision appear to be necessary or desirable within the next few years. Funding beyond that recommended for FY 1965 and FY 1966 is not required at this time to achieve that objective.

2. Strategic Reconnaissance

In my discussion of the RS-70 reconnaissance strike aircraft before this Committee two years ago, I stated, "It is clear that we should have the capability to do post-attack reconnaissance, but we will have other means to do that." We did, in fact, initiate in February 1963 the development of the new strategic reconnaissance aircraft, now known as the SR-71. This aircraft will have a crew of two and a variety of alternative reconnaissance payloads. [redacted]

[redacted] On the basis of the test program to date, we have every reason to believe that the performance of the SR-71 will meet or exceed its specifications.

[redacted] The total development and procurement costs of the SR-71 program through this presently planned deployment is now estimated at about $950 million.

As shown on Table 2, as the ten RC-135s funded in prior years enter the force in FY 1967, 14 RB-47s will be phased out. Thus, by the end of FY 1967, our strategic reconnaissance force will consist of 25 SR-71s, ten RC-135s and three RB-47s.

3. Strategic Missile Forces

The second major issue involved in our general nuclear war program concerns the future size of the strategic missile forces. Last year we had tentatively planned to fund another 100 MINUTEMAN silos in each year FY 1966-1967 (for a total of 1,200 missiles).

On the basis of our analysis of the general nuclear war problem in the early 1970s, I am convinced that another 200 MINUTEMAN silos are not required at this time. We now believe that we can markedly increase the kill capabilities of the MINUTEMAN force through a number of qualitative improvements which now appear feasible. The MINUTEMAN force presently planned for FY 1970, consisting of 750 MINUTEMAN II and 250 MINUTEMAN I, will have a total destruction capability of at least 30 to 40 percent greater than a force of the same size consisting only of MINUTEMAN I. This is equivalent to adding 300 to 400 missiles to a force of 1,000 MINUTEMAN I. With the additional improvements which now appear possible, the destruction capabilities of the MINUTEMAN force could be further increased in the future, if that appears desirable, by a factor of two compared with a force of the same size consisting only of MINUTEMAN I. These additional improvements not yet incorporated in the five year production program, include: new guidance components which would further

increase accuracy (i.e., reduce the CEP); a new re-entry vehicle (the MK-17) which would have much smaller re-entry errors as well as a larger yield warhead; and a post-boost control Multiple Independent Re-entry Vehicle (MIRV) system which would permit a single MINUTEMAN II to deliver three MK-12 weapons to geographically-separated targets.

The new guidance components and the new re-entry vehicle promise to reduce the overall CEP of the MINUTEMAN II to around [redacted] and give the missile more than a 90 percent probability of destroying targets hardened up to [redacted] Such an improvement is significant in view of the fact that the Soviets are hardening their ICBM sites. Against soft targets, many of which require no more than one MK-12 for their destruction, MIRV would greatly increase the kill capability of the recommended MINUTEMAN force.

The additional R&D cost of the guidance improvement program is estimated at $39.6 million, $22.7 million in FY 1966. The R&D cost of the new MK-17 re-entry vehicle is estimated at $89 million (exclusive of the cost of the flight test missiles), $11.3 million in FY 1966. The R&D cost of the MIRV program is estimated at about $150 million, about $20 million in FY 1966 (exclusive of the flight test program). The MK-12 re-entry vehicle is already under development.

To prepare for the possibility that the Soviet Union may deploy a relatively effective anti-missile defense system around its urban/industrial areas, we are continuing our comprehensive penetration aids program for which we have already programed about $1 billion through FY 1965. In addition to multiple warheads, maneuverable re-entry vehicles, and small radar cross-section re-entry vehicles, these aids or tactics [redacted] we believe they would prove to be very effective against any likely defense. A capability for employing penetration aids is already being incorporated in the POLARIS A-2 and A-3, the TITAN II and the MINUTEMAN.

The penetration aids research program is a costly one requiring much sophisticated instrumentation at the test ranges. Accordingly, we have made every effort to take advantage of related work being done in connection with our own R&D efforts on anti-ballistic missile defense, particularly the NIKE X and DEFENDER projects. As I pointed out earlier, the problems of the offense are the converse of those of the defense and information obtained from our penetration aids research has contributed to our thinking on the anti-ballistic missile defense problem. In total, $168 million is included in our FY 1966 request to continue advanced development work on penetration aids and improved re-entry systems.

As a further measure to counter a possible Soviet anti-missile defense system, we propose to begin development in FY 1966 of a new, larger submarine launched missile designated the POSEIDON. The POSEIDON

would incorporate improved accuracy and larger payload as compared with the POLARIS A-3. Its larger payload would permit it to carry a much greater weight of penetration aids, and thereby to penetrate heavily defended urban/industrial targets. Alternatively, it could be used to attack a single hardened point target with greater accuracy and a heavier warhead [redacted] With the retro-fit of a portion of the POLARIS fleet with the POSEIDON missile, the "kill" capability of the submarine force would be greatly increased.

We propose to initiate project definition of the POSEIDON missile this fiscal year with $10 million of available FY 1965 funds. Another $35 million has been included in the FY 1966 budget to continue development, principally on propulsion and improved guidance. Since we are still uncertain about the ultimate shelf life of the present POLARIS missiles and the time at which the Soviets might deploy an ABM system, the pace of the POSEIDON development has not yet been precisely established. Total development costs for this missile could approximate $900 million. The cost of retro-fitting a force of, say, 19 submarines with the POSEIDON missile could amount to as much as $2 billion, including the cost of missile development and production.

In view of the fact, as shown on Table 2, that we will have 800 MINUTEMAN and 464 POLARIS missiles in our operational forces by the end of the current fiscal year, I believe we can safely phase out all of the ATLAS and TITAN I missiles during the current fiscal year. These older cryogenic liquid-fueled missiles are very costly and difficult to maintain on alert status. The ATLAS and TITAN forces cost about $1 million per year per missile to operate and maintain, compared with only about $100,000 per missile for the MINUTEMAN.

In addition to the major changes I have already discussed, two minor changes have been made in MINUTEMAN and POLARIS schedules. For technical reasons and in order to achieve a more level production rate of the MINUTEMAN II, we have slipped the retro-fit schedule by about six months. As shown on Table 2, on the new schedule the MINUTEMAN II force will build up to 300 missiles by end FY 1967 which, together with 700 MINUTEMAN I, will provide a total force of 1,000. Thereafter, MINUTEMAN I will be replaced by MINUTEMAN II at the rate of 150 missiles per year through FY 1970, the end of the planning period. Depending on the actual shelf life of the MINUTEMAN I, the entire force will ultimately be converted to MINUTEMAN II.

The change in the POLARIS missile strength from that which I presented here last year stems from the submarine safety program. This program has caused a slippage in the POLARIS deployment schedule, thereby reducing the operational force by one submarine and 16 missiles at end

FY 1964, and by three submarines and 48 missiles at end FY 1966. But the program will be back on schedule by the end of FY 1967, by which time we will have a force of 41 POLARIS submarines carrying 656 missiles.

One final item concerning the POLARIS program: I stated last year that the POLARIS force would require the support of six tenders in order to ensure the continuous availability of at least five of them for the support of the five squadrons into which we then planned to organize the POLARIS force. We proposed and the Congress appropriated $69.6 million for the construction of the sixth tender in the FY 1965 budget. We now intend to divide the POLARIS force into four squadrons of from seven to nine boats each, three in the Atlantic and one in the Pacific. Since each tender is capable of servicing an entire squadron and since we can expect to have only about [redacted] POLARIS submarines at sea at any one time, we believe the tender requirement can be reduced to five, which will ensure the availability at all times of one tender for each squadron. Accordingly, we have cancelled the tender planned for construction in FY 1965 and applied the funds so released to the FY 1966 budget.

With regard to the other strategic offensive forces shown on Table 2, the only significant changes from last year are a somewhat earlier phase out of the older REGULUS cruise missile submarines as their targets are taken over by newer weapons and the substitution of seven more KC-135s instead of 36 B-47s in the Post Attack Command and Control System. This latter change will provide longer endurance aircraft for the SAC airborne relay mission while achieving significant operating economies. These more capable aircraft also hold the potential for establishing an Airborne Launch Control Center for the MINUTEMAN forces and this move is currently under study. Finally, with respect to the Emergency Rocket Communications System, funds were provided in the current year's program to develop and procure the improved communications package for MINUTEMAN boosters which will replace the current Blue Scout boosters by the end of FY 1967. This system provides a reliable, survivable means of giving the "go" signal to both surface and airborne strategic forces in an emergency.

In my judgment, the Strategic Offensive Forces proposed for the FY 1966-1970 period are fully adequate for the tasks assigned to them.

E. STRATEGIC DEFENSIVE FORCES

The force structure proposed for the FY 1966-1970 period, including those weapon systems, warning and communication networks and ancillary equipment required to detect, identify, track and destroy unfriendly forces approaching the North American Continent, is shown in Table 3. A substantial part of the anti-submarine force is organized to contribute to continental defense but I will discuss these forces in context with the Navy's General Purpose Forces.

1. The Overall Level of the Anti-Bomber Defense Program

One of the major issues we face in the Strategic Defensive Forces is to determine the proper overall level of the anti-bomber defense program. Our present system for defense against manned bomber attack was designed a decade ago when it was estimated that the Soviets would build a force capable of attacking the United States with many hundreds of long range aircraft. This threat did not develop as estimated. Instead, the major threat confronting the United States consists of the Soviet ICBM and submarine launched ballistic missile forces. With no defense against the ICBM and only very limited defenses against the submarine launched ballistic missiles, our anti-bomber defenses could operate on only a small fraction of the Soviet offensive forces in a determined attack. Moreover, the anti-bomber defense system itself is vulnerable to missile attack. It is clear, therefore, as it has been for some years, that a balanced strategic defense posture requires a major reorientation of our efforts -- both within anti-bomber defenses and between anti-bomber and anti-missile defenses.

I have already discussed the components of a balanced general nuclear war posture. With regard to the Strategic Defensive Forces, it is clear that our present anti-bomber defenses are out of balance with the other components in relation to the threat. During the last four years we have made some progress in reorienting the anti-bomber defenses to the changing character of that threat. The vulnerability of the system is being reduced by providing an improved backup to the SAGE system and by dispersing the manned interceptors. Marginal and obsolete units have been eliminated from the forces and new and more effective systems are being introduced. This effort will be continued during the FY 1966-1970 program period.

a. Surveillance, Warning and Control

The surveillance, warning and control network constructed during the 1950s was oriented to manned bomber attack through the northern approaches over Canada and around the flanks through the Atlantic and Pacific oceans. Three basic lines of radars were constructed across the northern approaches, the Distant Early Warning Line (DEWLINE), the Mid-Canada Line and the contiguous radars along the United States-Canada border ("Pinetree Line"). The DEWLINE was extended across the Atlantic and Pacific approaches by radar ships and aircraft. The radar coverage on each coast was extended to sea, also, by radar ships and aircraft. However, during the last few years, we have introduced new techniques of surveillance greatly increasing our ability to detect any sizeable movements of Soviet manned bombers. Moreover, in any deliberate, determined Soviet attack upon the United States, we can assume that they would strike first with their missiles and then with their aircraft. Thus, the arrival of their missiles would, in itself, signal the attack long before Soviet bombers

could reach their targets. As a result, large portions of the existing surveillance, warning and control system constructed during the 1950s are either obsolete or of marginal value to our overall defense.

(1) Semi-Automatic Ground Environment System (SAGE)

As I pointed out in previous years, the SAGE system, as originally conceived, is no longer suitable in an era of ICBMs and submarine-launched ballistic missiles. Recognizing the great vulnerability of the SAGE system to ballistic missile attack, we started in 1961 to provide a less vulnerable backup system, first by establishing at 27 prime radar sites NORAD control centers which could manually direct our interceptors in case of damage to SAGE, and then by introducing the semi-automatic backup interceptor control (BUIC II) system. At the same time, we phased out six of the SAGE Direction Centers which were redundant and co-located with other major targets (i.e., SAC bases) and one of the SAGE Combat Centers, as shown on Table 3.

Last year we planned to install a system of 34 of these BUIC II stations, co-located with prime radars, three of which were to be in Canada. And, when this system became operational by end FY 1966, we had planned to phase out four more SAGE Direction Centers in FY 1966 and two more Combat Centers in FY 1968, leaving 11 Direction Centers and four Combat Centers in the United States, plus one combined Combat and Direction Center in Canada. (The Canadian center is counted in the table as a Combat Center.)

We now propose to modify that plan. Instead of the 34 BUIC II stations, we now plan, as shown on Table 3, to deploy 19 BUIC III stations in the ten SAGE sectors along the Western, Northern and Eastern perimeters of the United States (including the one in Canada). With one exception, each of the sectors will have one SAGE Direction Center and two BUIC III stations. The Los Angeles-Phoenix sector, because it is the least vulnerable will have one SAGE Direction Center and one BUIC III station.

[redacted]

[redacted]

The other two of the twelve SAGE sectors (at Sioux City, Iowa and Detroit, Michigan) would continue to operate with just the SAGE Direction Center, since they will be covered by the SAGE sectors to the north. All 12 SAGE sectors will feed into the four Combat Centers (the fifth Combat Center shown on the table is a manual installation in Alaska) and the four Combat Centers in turn will feed into the NORAD Combat Operations Center.

The phase out of four additional SAGE Direction Centers by end FY 1968 will save around $30 million per year and, together with the six previously phased out, would produce total savings of $82 million per year. About $30.9 million has been included in the FY 1966 budget for the BUIC-SAGE system.

(2) Radars

As shown in Table 3, we plan to continue our program of screening out radar coverage excess to our needs. A recent study by the North America Air Defense Command has identified six more search radars which can be phased out during the current fiscal year, four more in FY 1966 and six more in FY 1967, for a total of 16, while still retaining double coverage above 10,000 feet and single coverage above 3,000 feet along the eastern, western and northern perimeters of the nation. (The gap filler radars shown on Table 3 are designed to provide coverage below 3,000 feet.) In view of the expected direction of the Soviet bomber attack, and the distribution of our air defense weapons, single radar coverage above 10,000 feet should be sufficient in the interior and along the southern border.

The six radars being phased out during the current fiscal year are excess to the needs of Defense and the Federal Aviation Agency (FAA). Two of the four radars programed to be phased out in FY 1966 are now being used by the Army in connection with its surface-to-air missile fire coordination system. When the last of the Missile Masters are replaced by the new fire distribution system equipment in FY 1967 these four radars will no longer be required. The other two are needed temporarily. Coverage of the six radars to be phased out in FY 1967 will be replaced by tying in with FAA radars in the same areas.

As I informed this Committee last year, the Defense Department has been working closely with the FAA in an effort to internet the radar systems of the two agencies. To date, 54 Defense radars and 27 FAA radars have been identified for joint use and we are continuing to explore the possibilities for further integration. A specific time schedule for tying these

elements of the two systems together is presently being negotiated with the FAA. However, in order to make the inputs from the 27 FAA radars usable in the automated SAGE - BUIC III system, they must be converted into the appropriate computer language by what is called a "digitizer." We plan to test a new type of digitizer this summer and buy half of the requirement in FY 1966 and the balance in FY 1967. About $11 million has been included in our FY 1966 budget request for this purpose.

Our continuing study has also identified eight gap filler radars which can be eliminated in FY 1965. Altogether, these radar reductions will produce a FY 1966-1970 saving of about $110 million, $7.2 million in FY 1966.

As I indicated earlier, our Strategic Forces, both offensive and defensive, are presently geared to very short warning times, e.g., BMEWs would provide only between seven and 20 minutes warning of a Soviet ICBM attack which would almost certainly precede a bomber attack. Thus, the long warning of manned bomber attack provided by DEWLINE and its extensions no longer has the value it once had. In the case of the DEWLINE radars, I described the reduction of 20 intermediate stations in Canada and of eight in Alaska last year. The remaining 39 stations are presently planned for retention throughout the program period, as shown on Table 3. In the case of the DEWLINE extensions, the ships were phased out in FY 1963. We now propose to phase out the aircraft by end FY 1966, as shown on Table 3. With regard to the Offshore Radars, we believe the 22 ships allocated to this mission can be phased out by end FY 1966. The low altitude detection capabilities of the ships were always limited and left great gaps in coverage. The AEW/ALRI aircraft, on the other hand, have both good low altitude and good high altitude coverage. Furthermore, the ALRI aircraft can automatically transfer their data directly to the control centers.

The elimination of these ships and the DEWLINE extension aircraft will produce savings of $266 million over the program period, $69 million in FY 1966.

b. Manned Interceptors

Considering the size and character of the bomber threat we are likely to face through FY 1970, I believe the present manned interceptor force is larger than needed. As shown on Table 3, at the end of FY 1964 we had about 830 all-weather interceptors in the active air defense forces and about 560 interceptors of all types in the Air National Guard. During the current fiscal year, we will phase out of the Guard all the remaining F-86s (100 aircraft) and F-100s (42 aircraft) which have no all-weather capabilities. In addition, we now propose to phase out during FY 1966 and 1967 the remaining nine Guard squadrons of F-89s (225 aircraft), an all-weather subsonic interceptor produced during the FY 1950-1956 period, as their age and subsonic speed seriously limit their intercept capability. The Guard squadrons which have been operating F-89s will be provided with F-102s during FY 1966-67 from the active forces. Under the present plan, the Air National Guard by end FY 1967 will be operating about 400 F-102s.

[redacted]

We are also programing a reduction in F-101s and F-104s in the active forces in FY 1968 and FY 1969, subject to later review if circumstances change. The slow decline in the number of F-106s shown on Table 3 reflects attrition only.

Thus, at the end of FY 1970, we now have programed 330 interceptors in the active forces and 396 in the Air National Guard, for a total of 726 aircraft. These changes in the manned interceptor forces will produce savings of $320 million over the FY 1966-1970 period, $15 million in FY 1966.

c. Surface-to-air Missiles

The surface-to-air missile programs shown on Table 3 are essentially the same as those described here last year, with the exception of the later years. Last year we began the phase out of the BOMARC-As, leaving six squadrons of BOMARC-Bs located at six different bases. In order to maintain the proficiency of the crews, we are providing one BOMARC-B missile for practice firing annually for each squadron which accounts for the decline in the BOMARC forces shown on Table 3. The decline in the numbers of HERCULES after FY 1968 and in the numbers of HAWK after FY 1969 also stems from training consumption.

2. Qualitative Improvements to the Anti-Bomber Defenses

While the present anti-bomber forces may be considered quantitatively excessive in the light of the threat, further improvements need to be made in the qualitative characteristics of the forces. I have already touched on the planned improvements to the BUIC-SAGE system. We have also included funds in the FY 1966 budget for a number of other possible improvements in the more distant future.

a. Production and Deployment of a New Manned Interceptor

By far the most important issue in the anti-bomber defense area is the production and deployment of a new manned interceptor. I believe it is evident from our analysis of the general nuclear war problem that the deployment of such an aircraft should be considered only if we were to increase significantly our overall Damage Limiting effort, including both the deployment of an anti-missile defense system and a nation-wide fallout shelter system. And, if we were to raise the level of our Damage Limiting program, it is not at all clear at this time that a new manned interceptor system would have priority over new advanced surface-to-air missile systems now under study.

Nor is it clear at this time that the YF-12A, which has already been substantially developed, would be preferable to an interceptor version of the F-111. Our analyses indicate that the F-111 would have some substantial advantages over the F-12A, including greater airborne

[redacted]

[redacted]

endurance and an ability to re-cycle on a greater number of airfields, as well as the fact that greater numbers could be procured for any given investment. In any event, the anti-bomber and anti-missile defenses must be interlocked and must be in proper balance to be fully effective against a combined missile/bomber attack.

The F-111 is already nearing production. The Navy version, the F-111B, together with the PHOENIX air-to-air missile systems now in development, is essentially an interceptor aircraft and could be modified for use in continental defense. We will continue to have this option for some time into the future since the F-111 will be in production at least through the end of this decade.

Funding for the development of the YF-12A [redacted] About $180 million has been programed for this project through the current fiscal year. Three prototypes are now available for flight test and $28 million has been included in the FY 1966 budget to continue development, test and evaluation. The YF-12A incorporates the ASG-18/AIM-47A fire control and air-to-air missile system which had been under development for some years.

No decision on the production of the F-12A needs to be made now. The SR-71 will be in production through late FY 1967 and if we were to decide to go ahead with deployment of a F-12A type aircraft, we would most likely produce an interceptor version of this larger aircraft which has a considerably greater range than the YF-12A. Therefore, this particular option would still be open to us in the FY 1967 budget period with no great cost penalty. Even so, the five-year systems cost of a force of 200 F-12As would amount to about $4 billion.

b. Improved HAWK

Funds have also been included in the FY 1966 budget for the development of new components which would increase the capability of the HAWK against high speed, low altitude targets, multiple targets within the same radar beam, and targets employing advanced electronic countermeasures. These improvements in the HAWK system are also needed to provide a better air defense capability for the forces in the field, particularly since the progress on the development of the MAULER has proved disappointing. I will discuss this program in greater detail later in connection with the Army General Purpose Forces.

c. Advanced Air Defense System

Last year we included $5 million in our FY 1965 budget request to initiate advanced development on a new surface-to-air missile system for the 1970s which would provide good capabilities against high speed

[redacted]

aircraft and short range missiles. This system, which I mentioned earlier, is intended to have application to the problem of air defense in the field but could also be used for CONUS defense. We increased the FY 1965 program to $13 million through reprograming and we are requesting $15 million in the FY 1966 budget to continue advanced development.

d. Airborne Warning and Control System (AWACS)

Last year we initiated the study of an airborne platform capable of detecting aircraft against the background of a variety of terrains. Present experience with similar devices in the Navy (E-2A aircraft) and theoretical studies indicate that the attainment of the hoped for performance is very unlikely. For this reason, we are reducing the effort on the aircraft system to a $3 million level in FY 1966. However, the problem is so important that we believe an additional $8 million in FY 1966 is completely justified to explore the extremely difficult technology of long range airborne radar to detect aircraft against ground clutter.

3. Ballistic Missile Warning and Defense

Defense against ballistic missile attack, whether from missile-launching submarines or land bases, comprises a capability both for warning and for tracking, intercepting and destroying the incoming warheads.

a. Ballistic Missile Early Warning System (BMEWS)

Our primary warning system against land-based ballistic missile attack is BMEWS, all three stations of which are now fully operational. Last year we undertook two major improvements to this system, the first being the installation of a tracking radar at the Clear, Alaska station. This radar will be operational by the end of the current fiscal year, thereby closing a possible low altitude gap in coverage between that station and the one at Thule, Greenland. The second improvement was an increase in the electronic counter-counter measure (ECCM) capabilities of the Thule and Clear stations. About $20 million has already been provided for this purpose and another $9 million is included in the FY 1966 budget. The required equipment will be fully installed and operational by the summer of 1967.

As I informed the Committee last year, we are modifying selected air defense radars on the East, West and Gulf coasts to give them some detection capability for shorter range missiles which might be launched from submarines or from Cuba, thereby providing at least a few minutes of warning. About $10 million has already been programed for this purpose and another $10 million is included in the FY 1966 budget to complete the work. Warning from these radars and from

BMEWS is fed into the same control points and therefore these radars are now part of the ballistic missile early warning system.

b. Over-the-Horizon Radar

[redacted]

c. NIKE X

The major issue in the ballistic missile defense program concerns the production and deployment of the NIKE X system. In my appearance before this Committee last year, I described the NIKE X system and its problems in considerable detail. Since that time, we have greatly expanded our knowledge of anti-missile defense with regard to both the relative costs and effectiveness of alternative deployments and the technical aspects of the system.

One of the most significant developments of the past year has been the highly encouraging progress being made in the development of the missile site radar (MSR). This radar was originally conceived as an adjunct to the large central multi-function array radar (MAR) to serve as a transmitter of guidance commands to the SPRINT missile and to perform limited target tracking. We have found that by adding separate data processing equipment and improved tracking capability to the MSR, it can serve as the primary sensor in certain deployments and at a much lower cost that the MAR. The MSR, of course, would have only a fraction of the capability of the MAR, but it would cost only about a tenth as much -- $40 million per site compared with $400 million for the MAR.

The MSR in combination with the MAR would make possible a number of alternative NIKE X deployments. Three basic systems configurations would be possible differing primarily in the number and kind of radars utilized:

(1) a so-called HI-MAR configuration which would include one high cost MAR and two or three single face low cost MSRs for each urban area defended. This configuration would provide the most effective defense against a large, technologically sophisticated attack but it would be the most costly if any sizeable number of cities were to be defended;

(2) a LO-MAR configuration which would include one MAR for about every three urban areas and one double face MSR and two single face MSRs for each urban area defended. Recent studies indicate that for a given level of expenditures, the LO-MAR configuration would probably be more effective in saving lives in a moderately sophisticated attack and would be clearly superior to a HI-MAR configuration against a smaller or less sophisticated attack. This is so because for the same expenditure more cities can be defended; and

(3) a NO-MAR configuration which would include only MSR radars in about the same combination as the LO-MAR configuration. This would be the lowest cost configuration per urban area defended but would be much less effective against a large sophisticated attack.

[redacted]

Although the NIKE X development is progressing satisfactorily, [redacted]

But over and above the technical problems there are still greater uncertainties concerning the preferred concept of deployment, the relationship of the NIKE X system to other elements of a balanced damage limiting effort, the timing of the attainment of an effective nation-wide fallout shelter system and the nature and effect of a possible Soviet reaction to our NIKE X deployment.

Accordingly, we propose to continue the development of the NIKE X system on an urgent basis and a total of $407 million has been included in the FY 1966 budget for that purpose. Of the $407 million, $20 million will be required to support the test and evaluation program at Kwajalein, which involves the simulated interception of missiles with various re-entry payloads launched from Vandenberg AFB; $17 million will be required for additional NIKE X facilities at Kwajalein, and $10 million would be used for some preliminary production engineering.

We plan to re-examine the question of production and deployment of the NIKE X system again next year. Deferral of this decision to the FY 1967 budget would still permit an initial operational capability by the summer of 1970. Considering the vast amount of development, test and evaluation work still to be accomplished, I do not believe we could improve on this IOC date by many months even if we were to start production in FY 1966.

4. Anti-Satellite Defense

Last year I told the Committee that "In order to provide an interim counter satellite capability, we have made certain modifications in the NIKE-ZEUS installation at Kwajalein Island to give it a capacity within certain ranges to intercept and destroy hostile satellites. This site is now in operation. [redacted]

If these flights are successful, we may want to consider establishing an operational capability.

We are also proceeding with two large ground based optical installations for satellite tracking and photography. The first, at Cloudcroft, New Mexico, which I mentioned to the Committee last year, will become operational shortly. It should be able to provide photographs of enemy satellites with the resolution of [redacted] The second system, in Maui, Hawaii, will become operational in 1965 and should have a resolution of [redacted] Both systems, however, are subject to atmospheric distortions and are limited to periods near dawn or sunset.

F. CIVIL DEFENSE

The major issue in this area concerns the construction of a complete nation-wide fallout shelter system. As I noted earlier, such a system would provide the greatest return in terms of lives saved from any additional funds spent on damage limiting measures. The 5-year systems cost for full fallout shelter protection for the entire population has been estimated at roughly $5 billion -- about $3 billion from the Federal Government, $1 billion from State and local governments and $1 billion from private sources.

Most of the approximately 240 million shelter spaces needed by the early 1970s can be obtained relatively cheaply, simply by identifying, marking and stocking the fallout shelter inherent in existing or planned structures. The residual requirement, however, will have to be met by providing for dual-purpose fallout shelter areas in new construction and this, we believe, would require Federal cost sharing with State and local governments and non-profit institutions. Such a cost sharing program would, of course, require the enactment of legislation authorizing the Defense Department to participate on behalf of the Federal Government. The Executive Branch has recommended such legislation to the Congress for three years running, but it was not enacted. Since this dual purpose shelter subsidy proposal is directed only to meeting the residual requirement, we propose in FY 1966 to concentrate our efforts on exploiting fully all of the existing potential for fallout protection and to determining more precisely the exact nature of the residual shelter requirement. To this end, we intend to emphasize four aspects of the program during FY 1965 and FY 1966:

- Expansion of the present shelter survey program to include structures too small to qualify as public fallout

shelters, i.e., small business facilities, duplexes and single family residences.

. Provision of architectural and engineering advice and assistance to stimulate the development of dual-purpose low cost, fallout shelters in new construction or major structural modification projects, through the application of various design techniques.

. Development of plans to identify more precisely the residual shelter requirements and to ensure the efficient use of currently available shelter by matching individuals with specific shelter spaces.

Provision of portable ventilation kits which will significantly increase the capacity of existing shelter space.

I will discuss each of these measures in context with the FY 1966 Civil Defense Program summarized on Table 4.

1. Shelter Survey and Marking

The continuing survey of existing structures has already identified about 127 million shelter spaces with a minimum protection factor of 40 or better. More than 79 million shelter spaces in 94,000 structures have actually been licensed or marked. By the end of FY 1965, we estimate about 130 million spaces will have been identified and a total of 90 million spaces actually licensed or marked.

As shown on Table 4, $36.3 million has been included in the FY 1966 request for shelter surveys. Of this amount, $13.3 million is requested to support the continuing survey and marking program which, during FY 1966, should add about 6 million additional spaces to the inventory. Prior to FY 1965, we limited our survey efforts to structures having potential as "public" fallout shelters -- i.e., structures capable of sheltering 50 people or more. During the current year we expanded the shelter survey to include smaller structures other than single family homes.

In the case of single family homes, a pilot test using a questionnaire type technique is already underway. Many private homes, just as the larger structures covered by the National Fallout Shelter Survey, are presently capable of providing significant

protection. The purpose of the "single family home survey" is to inform the homeowner of the existing protection already available to him. In addition, the results will be most useful to communities in determining more precisely the availability of suitable shelter. The initial survey is tentatively planned for completion in FY 1968 and could result in the identification of as many as 11 million shelter spaces which can be applied against the total requirement.

In total, $23 million is requested in FY 1966 for a full scale effort in these two new phases of the survey program.

2. Shelter Development

Experience indicates that a large amount of suitable shelter area could be obtained at little or no cost with minor changes in the design of new buildings such as by reducing window areas, placing first floors below ground level, and by using partitions, stairwells, retaining walls and high density materials to reduce radiation. We propose in FY 1966 to expand the provision of architectural and engineering advice on such matters to a level of $3 million, compared with $1.8 million programed for the current fiscal year. The U.S. Government will apply the same techniques to its own construction.

As previously mentioned, the shelter survey program has already identified a large amount of potential fallout shelter. Before we can truly realize this potential or know for certain the size and location of the residual shelter requirement, it will be necessary to develop specific shelter use plans country-wide. Beginning last year, we undertook pilot community shelter planning studies in 57 cities. These studies, managed by the Corps of Engineers, are done under contract with city planning agencies. During the current year, we are extending this program nation-wide, and work will continue into FY 1966 using $4 million of FY 1965 funds. Pending an analysis of our experience with this segment of the program, we are not requesting additional funds for community shelter planning at this time. As I will discuss later, however, we are requesting increased funding in FY 1966 to support the emergency operations systems development programs which are related to this community shelter programing effort. When this necessary analysis is completed, we will be prepared to extend further the community shelter planning program.

3. Regional Operations Centers

In order to provide essential emergency management and direction facilities in wartime and to house regional Civil Defense and other agency personnel in peace time, eight regional centers have been planned. These centers have been designed to provide adequate radiation and minimal blast protection. The first center at Denton, Texas, authorized prior to DOD assumption of Civil Defense responsibility, has already been completed at a cost of $2.7 million. The cost of constructing the remaining seven facilities on a more austere basis is estimated at $9.9 million, of which $2.1 million is already available from prior year appropriations. The remaining $7.8 million has been included in the FY 1966 budget.

4. Shelter Provisions

Funds appropriated through FY 1965 will provide supplies for about 63 million shelter spaces and $23.4 million is requested for FY 1966 to procure stocks for an additional 12 million spaces. The estimated cost per space in the FY 1966 program is somewhat lower than in the past since we believe that some of the provisioning requirements can be met through other means. The continuing shelter survey program has been expanded to determine the amount of food and water and sanitation facilities already present in buildings in which shelter has been identified and marked. To the extent such supplies and facilities are available or can be made so easily, the requirement for Federally-supported provisioning is reduced.

Frequently, in those cases when water is not already available to the shelter area, it can be made available by minor adaptations to the existing plumbing system. Accordingly, the FY 1966 request includes $3.6 million to defray the cost of modifying the water systems in some 18,000 buildings containing several million shelter spaces.

The $52.6 million shown on Table 4 for shelter provisions includes $25 million for the procurement of portable ventilation kits which would substantially increase the capacity of existing non-ventilated shelter space. Use of these kits would make it possible to accommodate another 10 million persons in shelter spaces already identified and marked.

5. Warning

Of the $1.3 million requested in the FY 1966 budget for this category, $0.4 million supports the maintenance and improvement of the Washington area warning system. The remaining $0.9 million provides

[redacted]

for fallout protection at an additional 228 State and local warning points in the national warning system, making a total of 483 protected warning points.

6. Emergency Operations

The $13.3 million included in the FY 1966 budget for emergency operations covers four activities -- the Emergency Broadcast System, damage assessment, radiological defense and emergency operations systems development.

The Emergency Broadcast System provides the President, the Federal Government and State and local authorities a means of communicating with the public in an emergency. Under the guidance of the Federal Communications Commission, plans are being developed at each governmental level. The necessary emergency facilities and equipment for 530 of the 658 radio stations estimated to be needed for complete national coverage have been financed through FY 1965 and prior appropriations. An additional $2 million is included in the FY 1966 budget to cover the remaining 128 stations.

Damage assessment techniques provide the informational basis for operational planning, for program evaluation and development, and for the direction of emergency operations. In FY 1966, $1.0 million is requested to operate the National Civil Defense Computer Facility and $0.4 million to maintain and update the damage assessment data base.

For radiological defense, $6.7 million is requested -- $2.5 million for 500,000 dosimeters for Civil Defense emergency personnel for determining radiation exposure; $0.8 million for the technical improvement of radiological instruments; and $3.4 million for weather services, warehousing and radiological instrument maintenance and calibration.

For emergency operations systems development -- i.e., the application of results of research, engineering tests and operations analyses to the development of practical civil defense doctrines and techniques -- $3 million is requested for FY 1966, an increase of $2 million over the present year's level. Virtually all of the increase is related to our expanded efforts in community shelter planning, which I mentioned earlier. This kind of practical planning is required to assure that supporting civil defense systems at the local level keep pace with the increased availability of shelters.

[redacted]

7. Financial Assistance to States

As shown on Table 4, $30.5 million in matching funds are requested for FY 1966 for financial assistance to the States, an increase of $3.5 million over FY 1965. This increase stems from the higher demands being made upon State and local civil defense organizations for newly emphasized aspects of the program, i.e., community shelter planning, increased shelter provisioning and development of emergency operating capabilities.

8. Research and Development

The FY 1966 request includes $15 million, compared with $10 million for the current fiscal year, to expand the civil defense research and development program. These funds will enable us to intensify our efforts to obtain: fallout protection at lower costs per shelter space; better means of controlling and directing emergency operations in damaged areas; an improved technical base for post-attack survival and recuperation; and improved methods of fire control and thermal countermeasures in the nuclear attack environment.

9. Management

For overall program management, $14.6 million is requested for FY 1966 -- about the same as for the current fiscal year.

10. Public Information

The FY 1966 request includes $4 million for public information activities and for the encouragement of private industrial participation in civil defense activities.

11. Training and Education

For civil defense training and education, $15.5 million is requested in FY 1966 -- about the same as FY 1965. This amount will permit a continuation of the University Extension Program which was significantly expanded this year. This program provides high quality civil defense training through the state university and "land-grant" college systems.

[redacted]

G. FINANCIAL SUMMARY

The Strategic Offensive Forces, The Strategic Defensive Forces and The Civil Defense Program I have outlined will require Total Obligational Authority of $6.3 billion in FY 1966. A comparison with prior years is shown below:

	($ Billions, Fiscal Years)					
	1962 Orig.	1962 Final	1963 Actual	1964 Actual	1965 Est.	1966 Proposed
Strategic Offensive Forces	7.6	9.0	8.4	7.3	5.3	4.5
Strategic Defensive Forces	2.2	2.0	1.9	2.0	1.7	1.6
Civil Defense		.3	.1	.1	.1	.2
Total	9.8	11.3	10.4	9.4	7.1	6.3

[redacted]

III. GENERAL PURPOSE FORCES

The General Purpose Forces, as in the past, include most of the Army's combat and combat support units, virtually all Navy units, all Marine Corps units and the tactical units of the Air Force. These are the forces upon which we rely for all military actions short of general nuclear war, i.e., limited war and counter-insurgency operations.

A. THE NATURE OF THE LIMITED WAR PROBLEM

Although the distinction between general nuclear war and limited war forces is somewhat arbitrary in that all of our forces would be employed in a general war and certain elements of the strategic offensive-defensive forces could be employed in a limited war, it is still a very useful approach in gaining an appreciation of the special problems involved in either type conflict. Having defined general nuclear war, in the preceding section of this statement, as a war in which strategic nuclear weapons are directed against the homelands of the United States and the Soviet Union, we can now define limited war as any other kind of military action (excluding counter-insurgency assistance) involving U.S. forces.

1. The Requirement for General Purpose Forces

While all of our military forces would be employed in a general war, it is primarily the limited war mission which shapes the size and character of the General Purpose Forces. The requirement for the bulk of these forces stems from this Nation's commitment to the principle of the collective defense of the Free World. We learned from the events leading up to World War II that the responsibility for defense of freedom against tyranny is indivisible. Aside from the obvious fact that the free nations are stronger united than alone, we recognized that the loss of freedom anywhere was a loss to the security of the United States.

With the emergence of the new Communist imperialism in the aftermath of World War II, we realized that for the sake of our own safety we must be prepared to defend the outposts of freedom everywhere in the world. Starting with our economic and military assistance to Greece and Turkey in 1947, we undertook a massive program of aid to free nations threatened by Communist aggression, both overt and covert. This effort was supplemented by a series of regional multi-lateral collective defense agreements beginning

with the Rio Pact in the Western Hemisphere followed by NATO in Europe and SEATO in the Far East. In the Middle East we have a bilateral agreement with Iran, which is a member of CENTO. We also have bilateral agreements with Korea, Japan and the Republic of China. In fact, we now have mutual defense agreements of one sort or another with well over 40 sovereign nations. And even without specific agreements, it will always be our interest to help independent nations defend their freedom against Communist aggression and subversion, to the extent they have the will to do so.

In addition to the requirements stemming from our collective defense arrangements, we must also provide the forces which may be required for the direct defense of U.S. territories and vital interests. These include the protection of U.S. shipping on the high seas, the defense of the Canal Zone, Puerto Rico, etc.

Each of these requirements represents a contingency -- actually, in most cases, a spectrum of contingencies reflecting a range of possible threats -- for which we must plan and for which we must provide military capabilities within our General Purpose Forces. Obviously, we cannot hope to anticipate and be fully prepared for every conceivable contingency and, for that matter, neither can our opponents. Moreover, we know from experience that our ability to predict contingencies in any degree of detail is quite limited. Accordingly, we must build into our General Purpose Forces a capability to deal with a very wide range of contingencies, ranging from an insurrection in one of the less developed countries to a large scale Soviet attack on Western Europe. It is this aspect of the limited war problem which accounts, in large measure, for the great diversity in the kinds of units, capabilities, weapons, equipment, supplies and training we must provide in our General Purpose Forces. And, this great diversity, in turn, seriously complicates the task of determining specific requirements for forces, equipment, etc.

In planning our General Purpose Forces we must also keep in mind the many uncertainties regarding the size, disposition, readiness and effectiveness of the opposing forces that we may have to engage. Our knowledge of enemy forces and their capabilities is already considerable and is steadily increasing but it is still limited compared with our needs. While we must always guard against underestimating enemy strength, we must also avoid gross over-estimates which might rule out courses of action we might otherwise find desirable. To deal with this problem, we must consider in each limited war situation a range of estimates of enemy forces and design our General Purpose Forces accordingly.

Inasmuch as our General Purpose Forces are, to a very large extent, designed to support our Allies around the world, the size and character of their forces have an important bearing on our own requirements. Indeed, in the NATO area and the Far East, Allied forces clearly outnumber our own although they still lack in many respects the same readiness and combat power. And the stronger the Allied forces, the better equipped, trained and manned they are, the smaller will be the burden on our own forces.

Because of this close inter-relationship between our forces and those of our Allies in the collective defense of the Free World, it is in our own national interest to help them support adequate forces wherever they cannot do the job alone. First, the essential margin of assistance required (materiel, training and in some cases budgetary support) can almost always be provided at far less cost to the American taxpayer than if we had to provide the same capability in our own forces. Second, we should not and cannot take upon ourselves the entire burden of defending the Free World with our own manpower -- we could not long sustain such a burden. Third, direct U.S. military intervention in defense of a nation threatened by Communist attack or subversion always carries with it the danger of expanding the area of conflict. Thus, while we must always be prepared to meet our military obligations to our Allies, it is also clearly in our own national interest to help them with both the military and economic means to defend themselves. It is for this reason that I have always considered Military Assistance (and budgetary support) an integral part of our own defense program.

Fortunately, most of our NATO allies are now in a position to support their own military forces and, indeed, some of them are now contributing to the support of other free nation forces. But, as I have pointed out in past years, most of our friends and allies along the periphery of Communist power, stretching from Greece in Southern Europe to Korea in the Far East, still need substantial amounts of military and economic assistance. These countries usually have adequate manpower but they do not have the needed weapons and materiel and, in some cases, they cannot even meet their military payrolls from their own resources. For these countries, military assistance and in selected instances economic assistance as well, is absolutely essential if they are to carry their proper share of the burden in the collective defense of the Free World. It makes little sense to spend tens of billions of dollars on our own General Purpose Forces and at the same time neglect the great contribution that about a billion dollars a year in Military Assistance brings to our total military capabilities.

Although in limited war, the time element is not as crucial as in general war where it is counted literally in minutes, it is still of great importance. The ability to concentrate our military power in a threatened area in a matter of days rather than weeks can make an enormous difference in the total force ultimately required, and in some cases could serve to halt aggression before it really gets started. For this reason, we have given a great deal of attention in recent years to the various ways of reducing our reaction time to limited war situations.

One method, of course, is to deploy in advance of actual need suitable U.S. forces to potential trouble areas. Although we have relatively large forces presently deployed abroad, both in Europe and the Pacific areas, there are obvious limits to this approach, quite aside from its affect on our balance of payments.

A second method is to maintain in the United States a highly ready force for quick deployment overseas. This, in turn, requires the maintenance of an adequate airlift and sealift capability, which we are indeed doing as I will describe in the next section of the statement.

Yet a third method, which shares some of the characteristics of both a forward deployment and a central reserve, is the pre-positioning of equipment and supplies in potential trouble areas overseas, either on land or in ships, with the men moved by air in times of emergency to points where they can join the equipment. And, as I will describe in the next section of the statement, we are expanding our efforts in this direction also.

The importance of the time element in limited war situations also bears on the question of balance between the active and the reserve component elements of the General Purpose Ground Forces. To the extent that the readiness of our reserve units can be raised, the requirement for active forces can be reduced. We recognize, of course, that there are practical limits on raising the readiness of the reserve units. But I see no reason why a reasonable number of Army reserve component divisions cannot achieve a readiness for deployment status of not more than eight weeks instead of six or more months. Reserve component divisions which are available for deployment only six or more months after callup will have little value in the kind of limited war situations we see ahead. The presently-planned expansion of our airlift, together with the improvement in our sealift and increased investments in pre-positioned equipment, will enable us within a few years to move most of the active ground

[redacted] Thus, the readiness of the reserve units should be brought to between 30 and 60 days, if they are to be of maximum value in limited war situations. This has been our goal with regard to the Army reserve components since 1961. Although considerable progress has been made towards that goal, a further effort is now required, and I will discuss this problem later in context with the Army General Purpose Forces program.

[redacted]

One of the major objectives of U.S. military policy since 1961 has been to strengthen the non-nuclear capabilities of the Free World and, in particular, those of NATO. But at the same time we have been pressing forward with that task, we have also been increasing our tactical nuclear capabilities for limited war and, again, particularly our capabilities in NATO Europe. Indeed, during the last four years, we have increased by 60 percent the number of U.S. tactical nuclear weapons deployed in Western Europe.

This dual approach [redacted] is not of recent origin. I have consistently stated to this Committee, beginning with my appearance here in the spring of 1961 in support of the first Kennedy amendments to the FY 1962 Defense budget, that:

> "Even in limited war situations, we should not preclude the use of tactical nuclear weapons, for no one can foresee how such situations might develop. But the decision to employ tactical nuclear weapons in limited conflicts should not be forced upon us simply because we have no other means to cope with them. There are many possible situations in which it would not be advisable or feasible to use such weapons. What is being proposed at this time is not a reversal of our existing national policy but an increase in our non-nuclear capabilities to provide a greater degree of versatility to our limited war forces."

pages 99 - 105 are denied

[redacted]

* * * *

In short, it is our judgment that an enhanced non-nuclear capability, free for use as such, buttressed by a true tactical nuclear capability which would make military aggression at any level unprofitable for the Soviet Union, is the only satisfactory basis on which to plan for the defense of Western Europe.

B. CAPABILITIES OF THE PROGRAMED FORCES FOR LIMITED WAR

As I noted earlier, our General Purpose Forces are, for the most part, designed to support our Allies overseas. Accordingly, their capabilities for this mission must be assessed in conjunction with the capabilities of the forces provided by our Allies. This requirement creates additional uncertainties when we are evaluating the capabilities of our forces throughout the FY 1966-70 time period. Although we have some knowledge of the present force plans of our Allies, we cannot be sure that those plans will actually be carried out or that they will not change significantly with the passage of time. Nevertheless, by making some assumptions about Allied forces, we can gain some appreciation of the capabilities of our own general purpose forces in the limited war mission.

1. NATO Europe

The largest requirement for U.S. General Purpose Forces which we can reasonably envision would arise from a non-nuclear war in Europe, and in particular, Central Europe -- that region of the Federal Republic of Germany stretching from the Baltic Sea to the Austrian border. Presently, our NATO partners have 21 divisions committed to SACEUR for the defense of that front -- 12 German, two Belgium, two Dutch, three British and two French. Three more French divisions, not committed to SACEUR, are available in France. The United States has six division equivalents in Germany making a total of 27 committed to SACEUR, or 30 if the three French divisions in France are included.

In numbers of men, U.S. ground forces in the Central region number 220,000 and other NATO forces about 400,000, for a grand total of 620,000. If the whole of the French army in Europe is included, the force would exceed 700,000 men.

These NATO forces are faced by Warsaw Pact ground forces numbering 800,000 -- about 300,000 Soviet and about 500,000 satellite.

B C

Over a three to four week period of uninterrupted mobilization the Warsaw Pact could probably deploy a total ground force of around 1.7 million men in the central region, including about 40 Soviet divisions and ten to 20 satellite divisions in the striking force. Over a longer period, the total deployed force would be limited primarily by logistic constraints, probably at a level of about two million men including 60 to 70 Soviet divisions and 35 satellite divisions. NATO forces, other than U.S., should be able to mobilize a force of about 700,000 men and 31 divisions over a 30-day period, and a force of about 1.3 million men and about 52 divisions at the end of six months.

The United States, with six division equivalents and two additional division sets of equipment now in Europe, could, with the present air and sea lift, have in place a total force of 12 Army division equivalents and one Marine Corps division within 30 days, and 18 Army division equivalents and one Marine Corps division within six months. (With the airlift and sealift proposed for 1970, we could provide a total U.S. force in Europe of 18 Army division equivalents and one Marine division within 30 days.) Thus, NATO could have a force of about 41 divisions and about one million men on the Central front by M+30 days and a force of about 70 divisions and about two million men by the end of six months.

With regard to tactical aircraft in Central Europe, NATO now enjoys a modest quantitative advantage vis-a-vis the Warsaw Pact. We have about 4,100 aircraft in place and can swiftly increase this total to about 5,600 aircraft. The Warsaw Pact has about 4,000 aircraft in place and could increase the total to about 5,000. NATO's qualitative edge, however, is much more substantial. For example, the bulk of Allied tactical aircraft can carry twice the payload and carry it farther than their Bloc counterparts. In fact, most Bloc aircraft could not reach many important NATO targets from their bases, especially at the low altitudes at which our air defenses would force them to fly. These are very important advantages since air superiority in the NATO area [redacted]

Such a force, providing it is properly manned, trained, equipped and deployed, should be able to give a good account of itself in a non-nuclear defense of Central Europe against a non-nuclear Soviet attack. But, unfortunately, many of the non-U.S. forces in the central region are not properly manned, trained and equipped and the ground forces as a whole are not deployed to the best advantage for defense.

[redacted]

Certain other deficiencies, however, concern our forces as well as our NATO partners. These include the [redacted] I will talk about our proposals to correct them later in my statement.

The problem of the mal-deployment of NATO forces in the central region is much more difficult to solve. For historical reasons, viz. the World War II occupation zone arrangements, U. S. forces are located generally in the southern and central part of Germany with the U.K. forces in the north. Although 12 German divisions have since been added to the force [redacted] This means that in event of war, forces would have to be redeployed [redacted] and this would constitute a serious problem for which we have no ready solution.

But the other deficiencies lie well within the means of NATO to correct. An agreement to update NATO strategy, which I talked about earlier, will, in itself, help to overcome some of them. The others can be overcome if our NATO partners are willing to make the relatively small additional effort required. As a result of my discussions with many of my defense ministry colleagues, I feel

that most of us are not very far apart right now in our views of NATO strategy. It is my hope that we can enlarge this consensus in the months ahead and get on with the job of providing a viable defense for Western Europe.

2. Other Areas

Although limited war conflicts in areas of the world other than Europe are more likely, the requirements for U.S. General Purpose Forces are more manageable because the forces of potential aggressors in those areas are less effective and their logistics problems more difficult. The Chinese Communist Army, for example, includes 2.3 million men organized into about 160 divisions. But we estimate that they could support only about 34 divisions in a war in Korea (plus 25 North Korean divisions), or only 6 to 26 divisions in a war in Southeast Asia (plus 6 North Vietnamese divisions). Moreover, [redacted]

During the last year, we have gained a better understanding of the types of forces and the deployment schedules required for a successful defense of areas outside of Europe. In general, lighter ground forces including fewer tracked vehicles, less long-range artillery but more aircraft are now considered more suitable for these areas. As in Europe, we find that there is a high payoff to be gained from a capability for rapid deployment. A recent study indicates that a deployment to Southeast Asia of five divisions by D+30 days and nine divisions by D+60 days would provide a better defense, involve less loss of population and territory, than a deployment of seven divisions by D+75 and 13 divisions by D+130. We estimate that five divisions would be needed to hold in Southeast Asia and nine divisions to counterattack.

[redacted]

In a situation involving conflicts in both Southeast Asia and Korea, we would have ample land-based and carrier-based air power to support the ground forces although the availability of suitable air bases in Southeast Asia would offer a problem. The interdiction capability of our air forces would be of great importance to the land battle in either area. Although past experience has shown that air interdiction can never shut off the flow of supplies entirely, it can limit it, thus reducing the size of the forces the enemy can support in combat.

In any war in the Far East, our Navy forces would play a very important role. Carrier aircraft would supplement the land-based aircraft in the land battle. The carrier task forces would also support the amphibious forces in over-the-beach landings while the ASW forces would secure the landing area and protect our shipping across the Pacific. In fact, we now believe that our ASW forces may be large and capable enough to ensure the resupply of our forces even during simultaneous conflicts in Europe and in the Far East. I will discuss this subject in greater detail in connection with the Navy General Purpose Forces.

It is appropriate to note at this point that our global naval power gives us an unique advantage over the Soviet Union. We believe there is a good chance that in a future war at sea (not involving any land battles), we would be able, within a matter of months, to attrit the Soviet submarine force to a point where it could no longer effectively interfere with our ocean commerce, while simultaneously clearing the seas of all Soviet surface shipping. Of course, at least in the initial period, we will suffer damage to our naval and merchant ships.

Such a war might come about, for example, in retaliation for a Soviet move against Berlin. If the submarine threat can be contained, the Soviet surface fleet, without aircraft carriers, would be completely ineffectual in challenging us for control of the seas. The cost to the Soviets of building an attack carrier force would be enormous and with our already large force we would always stay well ahead of them.

Thus, on the basis of our study of a representative group of limited war situations in areas outside of Europe, we believe that the General Purpose Forces proposed for the FY 1966-70 period should be adequate.

C. ARMY GENERAL PURPOSE FORCES

The United States Army, during the last four years, has undergone a major renovation and expansion:

(a) The total number of combat-ready divisions has been increased from 11 to 16, including the addition of two new divisions and the raising of three divisions from training to combat status.

(b) All major combat units have been reorganized from PENTOMIC to ROAD configuration, thus providing them with greater strength, fire power and flexibility.

(c) The mobility of major combat units has been significantly increased by the addition of armored personnel carriers and self-propelled artillery.

(d) Army aviation has been substantially strengthened by expanding and modernizing the aircraft inventory.

(e) The Army's special warfare capability has been greatly enhanced by increasing the number of Special Forces groups from three to seven.

(f) Tactical nuclear capability has been improved by the substitution of a more mobile, longer range tactical missile system, by the development of new atomic artillery rounds and by an increase in the number of these rounds.

(g) The staying power of the combat forces has been vastly improved by increases in combat consumables.

(h) The Army Reserve Components have been realigned to ensure their ability to augment promptly the active forces during periods of grave international tension or in limited wars.

These changes have been so numerous and extensive and have come so fast that we believe the Army now needs a period of time in which to digest and consolidate them. Accordingly, we do not now propose any additional major changes in the Army force structure, except for a further realignment of the Reserve Components to increase their readiness to augment the active Army.

1. Active Forces

The Army General Purpose Forces proposed for FY 1966-70 are shown on Table 5. With but a few exceptions, this is the same basic force structure proposed last year. The provisional air assault division and related units formed over the last two years to test new air mobility concepts will have completed their original purpose before the end of this fiscal year. The Joint Chiefs of Staff evaluation of the test reports and a determination as to a requirement for any further tests should be completed about mid-February. We will then want to spend some time studying the final results in order to determine what changes, if any, should be made in the Army force structure. Regardless of the outcome of this study, however, the 15,000 men temporarily added to the Army's regular strength in FY 1964 will no longer be needed. Last year, we had tentatively planned on holding this strength through the end of FY 1965 in order to ensure the orderly completion of the tests. No tests are planned beyond the end of March. We now believe that by adjusting our draft calls downward during the April-June quarter, we can absorb the air assault personnel into the regular force structure and reduce the Army's active duty strength to 963,273 by the end of the current fiscal year.

One change in the Army force structure, as shown on the Table, relates to the number of separate aviation companies. Last year we had planned to deactivate during FY 1966 five separate aviation companies then in Viet Nam, using their resources to support an organic aviation capability within the reorganized ROAD divisions. This would have reduced the number of separate companies from 37 to 32. We now intend to maintain these five companies in Viet Nam for as long as they are needed and so, for the time being, we have delayed their deactivation indefinitely.

While there are no major changes in the surface-to-surface missile force structure as such, we are proposing another significant augmentation of our PERSHING capabilities in Europe. We buy about 80 missiles for each battalion. It takes only 25 minutes to fire the first missile but 75 minutes more to reload the launcher and fire the second. We decided, in order to increase their quick reaction capability, to double the number of launchers from four to eight for all PERSHING battalions ($1 million per launcher). We now propose to add still another four launchers to each of the three battalions in Europe and to develop certain improved ground support equipment and penetration aids. These changes should greatly increase the effectiveness of the system, especially in the quick reaction role, [redacted]

[redacted] Because of the vulnerability of the air bases to a surprise nuclear attack, a mixed force of missiles and bombers might prove to be more survivable. We are now studying this problem in detail. The total number of PERSHING launchers in the five battalions shown on Table 5 will increase from 20 to 40 in FY 1966 and to 52 by the 1st quarter FY 1969.

With respect to air defense, the presently planned program provides for the activation of a NIKE-HERCULES battalion (four batteries) in FY 1966 for deployment in FY 1967 to Guam in order to protect the SAC and POLARIS complex on that Island. While no additional missiles need to be procured to permit this deployment, funds will be required to prepare the site and they are included in the FY 1966 request.

As previously mentioned, one of the major deficiencies in our present military posture in Europe is the lack of adequate forward area air defense for our forces. Because of the disappointing progress in the development of MAULER, which was once intended to provide such a capability beginning in FY 1965, we have decided to seek an interim solution to what has now become an urgent problem. To this end, we are taking a number of measures directed to meeting both our immediate and near-term future needs.

First, we propose to redeploy in Europe some of our HAWK battalions which are now part of the forward air defense belt east of the Rhine. [redacted] Then, we plan to convert two more HAWK battalions (eight batteries) into a mobile (self-propelled) configuration in order to provide air defense support for the two army corps east of the Rhine. Some of the redeployed batteries will be replaced in the HAWK belt by German and French units. At the same time, we also propose to add a mobile capability to one of the two HAWK battalions now assigned to STRAC reserve at Fort Bliss.

In the process of converting to the self-propelled configuration, the number of firing batteries in each of these three HAWK battalions will be reduced from four to three, which accounts for the reduction of three batteries in FY 1966 shown on the table. This simple numerical reduction is quite misleading, however, in that the fixed-site HAWK battery has only two firing platoons (or eight per battalion) while the self-propelled battery will have three firing platoons (or nine per battalion). Thus, although there will be a reduction of three batteries, total fire power will actually be increased. We propose

that the conversion of these three HAWK battalions be financed by reprograming $19.0 million of available FY 1965 funds. Nine million dollars for the re-siting of the three fixed-base HAWK battalions are included in the FY 1966 request.

Second, we are requesting $31.1 million in the FY 1966 budget to procure weapons for six composite forward area air defense battalions (24 batteries) all of which would enter the force in FY 1968, as shown on the table. These battalions will be armed with SIDEWINDER missiles slightly modified and mounted on vehicles, and with "high rate of fire" 20 mm. guns mounted on self-propelled vehicles. These weapons are already in production or the late stages of development. The remaining development is concerned principally with adaptation for vehicular mounting and engineer and user tests of the final system.

We plan to assign one battalion (four batteries) to each of the five U.S. divisions in Germany, with the sixth battalion retained in the U.S. in STRAC reserve. The shift from "separate" to "organic" batteries in FY 1969 shown on the table simply reflects the presently expected time-phasing of these units into the overseas divisions. This program is the result of extensive studies and tests conducted over the past two years and promises a significant increase in low altitude air defense capability for the five divisions deployed in Europe.

To provide a longer term solution to the problem of forward area air defense, the FY 1966 R&D request includes $10.0 million to explore more advanced approaches leading to the development of highly mobile, quick reacting and survivable air defense systems.

In addition, two other major development efforts are now underway to improve air defense. The first, known as the HAWK Improvement Program for which $11 million is requested, is designed to give this missile system increased effectiveness [redacted] A HAWK system with these improvements will hedge against slippage or failure of the next generation air defense weapon system development and provide an improved interim solution to fill the void left by the slippage of MAULER. A final decision on the future of the MAULER development is being withheld pending completion of our current study. Meanwhile, we are not requesting further funding at this time and tentatively plan to apply all presently available MAULER funds to other urgent air defense programs.

The new Surface-to-Air Missile Development, which I discussed earlier in connection with the Strategic Defensive Forces, would, of course, also be directly applicable to the defense of the forces in the field.

2. Army Reserve Components

Earlier in this section of the statement I noted the crucial importance of ready reserves to our limited war planning, particularly at the end of this decade when our airlift and sealift capability will be large enough to move most of our central reserves of active ground forces overseas within a relatively short period of time. Indeed, improved readiness for the Army's reserve components has been one of our major objectives since May 1961 when President Kennedy first announced that a plan was being developed which would make possible a much more rapid deployment of a major part of the reserve forces. That plan, appropriately modified to reflect the subsequent increase in the size of the active Army, was put into effect in 1962 and brought to completion in 1963.

Under that plan, the Army reserve component structure was realigned to provide a priority force of six divisions and their supporting forces, 11 brigades, the units required to round out the active Army, the "on-site" air defense battalions, and the training and operational base units -- all manned at 75 percent or more of their TO&E strengths and with readiness for deployment goals of approximately eight weeks. Eight previously existing divisions were eliminated from the reserve component structure.

The present structure is a vast improvement over its predecessor but there are still a number of ways in which it can be further improved. Units for which there are no foreseeable needs in our contingency war plans should be eliminated from the structure altogether and the resources they now consume applied to more urgent requirements; and the present dual management of the Army reserve components should be replaced by a single management structure.

Our analyses of the various kinds of limited war situations we are likely to face over the balance of this decade indicate a requirement for an Army force of about 22 divisions, plus two special purpose divisions specifically tailored for use within the Western Hemisphere. Sixteen divisions are provided in the active Army. The other eight divisions (including the two special purpose divisions) plus all of the units needed to round out the 24-division force, can and should be provided within the Army reserve component structure and all of the

resources and efforts devoted to the reserves should be directed to raising their combat readiness to the required level.

The existing reserve component structure still devotes considerable resources to units for which there is no requirement in our contingency war plans, namely, the 21 divisions and various non-divisional units in the "low priority" category. Of the 700,000 paid drill spaces programed for the Army reserve components, about 200,000 are allocated to these units, providing manning levels of only 55 to 60 percent. Although tentative readiness goals ranging from six to nine months have been established for these "low priority" units, their actual availability for deployment would depend on the delivery of weapons and equipment from new production. At the present time we estimate that the "low priority" units have on hand approximately 35 percent of their authorized equipment, much of it sub-standard and unsatisfactory for combat use. Thus, in the event of a callup, these "low priority" units would have to be completely re-equipped and, even under the best of conditions, this would require 12 to 18 months after a full mobilization is undertaken -- such a lead-time for the procurement of equipment exceeds the time required to activate the units and to recruit and train their personnel.

Admittedly, we could acquire the necessary equipment and war consumables for the "low priority" forces during peacetime, but to do so would entail procurement expenditures of about $10 billion. Such an expenditure is clearly unjustified for units for which there is no requirement in our contingency war plans.

Since there is nothing to be gained by maintaining reserve units for which there is no military requirement and for which the "equipment lead-time" exceeds the "training lead-time," we have reached the conclusion that they should be eliminated from the force and that our efforts and resources should be concentrated on those units for which we do have demonstrable and urgent requirements.

At the same time, we believe we should take the long deferred step of simplifying and streamlining the management of the Army's reserve forces. As matters now stand, we have two Army reserve forces, each operating under a different chain of command. The Army National Guard, consisting of combat, combat support and service support units, with a total authorized paid drill strength of 400,000 men, is administered by the Department of the Army through the National Guard Bureau, the governors of the States and the States' adjutants general. The Army Reserve, also consisting of

combat, combat support and service support units, with a total authorized paid drill strength of 300,000 men, is administered by the Department of the Army through the Continental Army Command, the Continental Armies, and the 14 Army Corps.

This arrangement complicates the overall management of the Army reserve forces and results in an unnecessarily large overhead. Two separate management organizations consisting of headquarters and headquarters-type agencies must be maintained and staffed with substantial numbers of supervisory personnel. Moverover, because there are two separate managements, differences in organization, standards and procedures arise, thus making more difficult the administration of the reserve components and the integration of the units into the overall Army structure. Finally, the existence of two separate organizations, often in the same communities, results in unnecessary duplication in recruiting activities and in facilities.

The disadvantages of the dual organization of the Army reserve components were clearly recognized at the end of World War II. Immediately upon the creation of the new National Military Establishment under the National Security Act of 1947, James Forrestal, the first Secretary of Defense, appointed a "Committee on Civilian Components" (chaired by the then Assistant Secretary of the Army, Gordon Gray) to study all aspects of the reserve components. After due deliberation, this Committee in June 1948, recommended, among many other proposals, that one reserve component be established for each of the four military services. To this end the Committee proposed that the Army Organized Reserve Corps and the Army National Guard be merged into a single Federally controlled "National Guard of the United States," and that the Air Reserve and Air National Guard also be merged into a single organization, thus putting an end to dual State-Federal control of the reserve forces by eliminating all elements of State control. Although Secretary Forrestal agreed with the objective of a single reserve component for each of the Services, he did not endorse the recommended mergers chiefly because of the "serious schisms which might develop as a result of the kind of struggle which might be precipitated by any effort to secure the requisite legislation."

His concern with the legislative aspects of the proposed plan was well founded since it ran against the grain of our Constitutional tradition. The Founding Fathers, disregarding the advice of George Washington who strongly urged the establishment of a "Militia of the United States," decided to continue the Colonial militia as State organizations, ". . . reserving to the States respectively, the Appointment of the Officers, and the Authority of training the

Militia according to the discipline prescribed by Congress;" (Article I, Section 8 of the Constitution of the United States).

This Constitutional provision was implemented in the Militia Act of 1792 which, with but minor modification from time to time, continued as the basic law regulating the militia until 1903. Aside from its obvious weaknesses, e.g., lack of uniformity among the State militia, poor training, shortages of equipment, etc., the most disturbing problems created by that law were the voluntary compliance by the States to calls from the Federal Government, the tradition that the militia could not be employed outside the United States and the three-months limit on their service.

The issue of Federal versus State control came to a head during the Spanish-American War and in 1903 a new militia law was enacted giving rise to the present day National Guard. Under the new law the National Guard units were to be organized, armed and disciplined in a manner similar to that of the Regular Army and were required to participate in annual drills and instructions. The Federal Government was to provide the arms and equipment and regular officers for training and inspection. When called to active duty, the Guard was to be subject to the same rules and "Articles of War" as the regular troops and could be held on duty for as long as nine months.

In 1908, the President was authorized to specify the term of service and to use the Guard outside the territory of the United States. But the dual status of the Guard (with both State and Federal obligations) continued to cause dissatisfaction and although the National Defense Act of 1916 further extended Federal support and supervision of the Guard, an Officers' Reserve Corps and an Enlisted Reserve Corps, under the direct control of the Army, were established. These organizations were the forerunners of today's Army Reserve. By amendment to the National Defense Act of 1916 in 1933, all of the Federally recognized Guard units and individuals were incorporated in the "National Guard of the United States" which, in turn, was made a full-fledged reserve component of the Army. Congress had only to declare a national emergency to permit Guard units to be ordered to duty. But, the Officers' Reserve Corps and the Enlisted Reserve Corps were continued. During World War II, the Guard contributed 18 combat divisions and the Organized Reserve 25 divisions which at the outset were largely "paper" organizations although about 100,000 individual reservists joined the active forces.

Thus, the Army came out of World War II with two reserve components -- the Army National Guard which was authorized to receive drill

pay and the Organized Reserve Corps which was not. This inequity was corrected in March 1948 by amendment to the National Defense Act of 1916.

With the abandonment of the Gray Committee merger plan, the dual approach to the Army and Air Force reserve components was continued with the result that, today, we have six reserve components -- two each for the Army and Air Force and one each for the Navy and Marine Corps.

The existence of two reserve components for the Army makes no better sense today than it did in 1948 and this situation should be corrected. Our proposal to transfer the Army Reserve units to the Army National Guard should not be interpreted to mean that we consider the former inferior to the latter. Rather, our selection of the Army National Guard is based on two major considerations. First, each of the States has a continuing need for a military force responsive to its Governor which can be used to deal with natural disasters and for the preservation of law and order, and if the National Guard were eliminated, the States would have to meet that need in some other fashion. Second, the State National Guard organizations, as the lineal descendents of the State militia, are deeply embedded in our Constitutional tradition and in our country's history and are entitled to preference as the senior reserve component.

We have the greatest regard for the officers and men now serving in the Army Reserve and we are indebted to them and their predecessors for their devoted service to the Nation's defense. We hope that they will choose to affiliate themselves with the Guard units in their communities and the Defense Department will do everything in its power to provide them that opportunity. Those reservists who do not wish to do so can remain on the Army Reserve rolls as individuals where they can continue to participate through correspondence courses and, in many cases, annual training tours. Indeed, men with obligated service who do not wish to affiliate with the Guard units will be required to continue their affiliation with the Army Reserve. However, drill pay would be limited to members of organized units, all of which would be in the National Guard.

In addition to streamlining the management of the Army reserve components, we also seek to accomplish the following objectives:

(a) To retain in the structure only those units which are actually needed and to treat all of them as high priority units.

(b) To provide all units in the realigned structure with 100 percent of their authorized equipment and the manning levels required to meet their readiness goals.

(c) To maximize participation in and support of units in the new Guard structure by distributing them throughout the 50 States, and in so doing equalize to the extent possible the opportunity for participation in organized units for members of both the Army Reserve and the Army National Guard.

The presently existing and proposed structures are shown on Table 6. Under the present structure, the units for which there is an early requirement account for 498,500 of the 700,000 authorized drill pay spaces. Under the realigned structure, they would be provided a total of almost 550,000 spaces and all units not required by the contingency war plans would be eliminated. The units required to "round out" the Active Army would be given about 5,000 more spaces so as to raise all units to 80 percent manning and to permit the introduction of new logistics concepts at the corps and army support levels. The number of separate brigades would be increased from 11 to 16 and all would be provided with brigade bases. About 28,300 additional spaces would be needed to accomplish these purposes and to raise all units to 80 percent manning. About 7,000 spaces would be added to the six division forces and about 5,000 spaces would be added to special purpose division forces to raise all units to 80 percent strength. Another 4,500 spaces would be added to State Headquarters, principally to accommodate the transfer of the present USAR school system to the Guard. Overall, the realignment would result in the elimination of about 2,100 company and detachment size units -- from about 8,100 in the present structure to about 6,000.

All of the organized units in the realigned structure would be under the management of the Army National Guard. Where feasible and necessary to facilitate participation by all of the present members of the Guard and Reserve, company-size units may be split between two locations. The U.S. Army Reserve would retain responsibility for managing the individual reserve "pool" and for providing individual fillers for the units at summer camp or upon mobilization.

In my judgment, the proposed realignment will not only increase the combat readiness of the Army reserve forces but also, when completed, should produce recurring annual savings of at least $150 million which can be applied to other needs. Including directly related savings in other appropriations, reflecting the reduction in active duty supervisory overhead and in the six month trainee program which the

realignment makes possible, our FY 1966 budget request for the Army reserve components is about $115 million less than the current year.

Finally, to facilitate the realignment we propose to merge, beginning in FY 1966, the presently separate military personnel and operation and maintenance appropriation accounts of the Army Guard and Reserve. This will give us the flexibility needed to transfer personnel and functions during the realignment process.

I have attempted in this brief discussion to sketch out only the main outlines of the proposed realignment and its rationale. Army witnesses will be prepared to discuss the proposed plan in much greater detail.

3. Army Procurement

As you know, we have made very heavy investments in recent years in building up our stocks of weapons and combat consumables to levels which would permit our forces to engage in sustained combat. With the approach of substantial completion of this planned build-up of Army stock levels, we have again reviewed our logistics objectives in the light of our actual deployments and likely needs over the next few years. As a result of this review, we have decided to make certain revisions in these objectives.

Under the logistics guidance which I described to you last year, the Army was to acquire initial equipment for a 22-division force (16 active and six reserve component divisions) plus sufficient combat consumables (attrition of equipment, replacement spares, ammunition, etc.) to maintain 16 divisions and their support forces in combat for the entire period between D-Day and the time when production rates could be built up to match combat consumption (P-Day). This is known as the "D to P" concept. However, as I pointed out earlier, our forces in Europe would have to fight along side those of our Allies whose present capability for sustained combat is quite limited (10 to 60 days of combat consumption). While we hope to encourage them to increase their war reserve stocks in the future, I believe that, until they do, we should not attempt to maintain more than a six month stock of ammunition and reserve equipment for the eight U.S. divisions scheduled under current NATO plans for deployment in Europe by M+30 days.

For our remaining 14 divisions (of the 22 division Army force) and their supporting forces, we will continue to procure ammunition on a "D to P" basis. Reserve stocks of equipment for these forces, however, will

be provided, generally, at a six month support level, except where we find that by holding to this standard, the Army's ability to fight these forces indefinitely would be significantly impaired.

And, as previously mentioned, we intend that, with the reorganization of the reserve components, all of the Army National Guard units (including the two special purpose divisions, the separate brigades and other supporting forces) will be included within the force for which we buy weapons, equipment and combat consumables. We have added about $40 million to the FY 1966 request to make a start on filling the most urgent requirements -- communications equipment, trucks, etc.

During the past year, we have continued to refine our inventory objectives for specific items of equipment in light of our most recent actual experience and in accordance with the revised logistic guidance just described. The FY 1965 Army procurement program has been modified and the FY 1966 program developed to reflect these new objectives. Our proposals also reflect our determined effort to concentrate funds for equipment modernization on those items which will yield the greatest gain in combat effectiveness. As now adjusted, the FY 1965 program totals about $1.9 billion; the proposed FY 1966 program amounts to about $2.0 billion.

Because of the large number and variety of individual "line items" in the Army's procurement list, I will again limit myself to a discussion of the broad categories shown on Table 7, mentioning only the most important items within each category.

a. Aircraft

During the last several years, the Army's aircraft inventory has been increased very substantially, from 5,564 at the end of FY 1961 to over 8,000 estimated for the end of FY 1966 funded delivery period. We have now remedied the critical air mobility short-comings of the Army and, in prudence, should proceed cautiously with any further expansion. As previously mentioned, we have accumulated a large body of data from the air assault tests as well as from our experience in Viet Nam, most of which remains to be thoroughly analyzed. In addition, there are a number of R&D projects in various stages of completion, which could significantly influence the future character of Army aviation. (These will be discussed in context with the R&D program) The Army is undertaking a comprehensive review of its aircraft needs. By next year we should have a better basis upon which to establish a sound long-range aviation procurement program for the Army.

[redacted]

Thus, for FY 1966, we propose only an austere aircraft procurement program, limited to meeting basic requirements which would not be affected by the outcome of the Army's study. A total of $344.5 million has been included in the FY 1966 budget for procurement of 1,018 aircraft (plus drones, spares and repair parts), about 21 percent less than FY 1965 and about 35 percent less than FY 1964.

Again the largest single item in this category is the purchase of 720 more UH-1D(IROQUOIS) helicopters. The IROQUOIS is replacing older helicopters and fixed-wing aircraft in the general utility role (e.g., transporting troops, cargo and casualties). The FY 1966 purchase will bring the Army's inventory to 2,852 compared with an inventory objective of 3,448 aircraft.

As envisioned a year ago, the FY 1965 program for the CH-47A CHINOOK transport helicopter, which totaled 72 aircraft, anticipated a build-up to a production rate of six per month. However, in view of the fact that we have already met the logistics objective for this type of aircraft (current and future procurement of the CHINOOK is designed to modernize the transport helicopter inventory which currently includes a number of older CH-37 MOJAVEs) and in view of the previously mentioned comprehensive review of Army aircraft programs, we have decided for the present to limit the production rate to five per month. This will have the effect of reducing the FY 1965 procurement from 72 helicopters to 60. For FY 1966, we would procure 60 CH-47s at a cost of $75.2 million as shown on the table.

Contracts for the FY 1965 portion of the light observation helicopter (LOH) program are soon to be awarded. $20.4 million for an additional 168 is included in the FY 1966 request. This new helicopter will be used to replace the older OH-13/23s and the O-1 fixed wing observation airplane.

We also propose to procure ten fixed-wing and 60 rotary-wing trainer aircraft in FY 1966, at a cost of $4.2 million.

b. Missiles

Army procurement of missiles including spares will increase by $19 million, from $235 million in FY 1965 to $254 million in FY 1966.

The FY 1966 procurement of 60 PERSHING missiles would bring the Army's inventory to 100 percent of its total inventory objective of 258 and provide for annual service practice and tests through FY 1970.

[redacted]

During FY 1966, we will again be sharing the PERSHING missile production with the Federal Republic of Germany. [redacted]

We have not yet finally decided on the deployment of LANCE, a light weight missile designed to replace HONEST JOHN and possibly LITTLE JOHN. Further development effort will be required before the system is ready for procurement. To provide for this development effort in FY 1966, $46 million has been included in the R&D request.

About $2.7 million is included for the procurement of 1,370 SS-11 anti-tank missiles, which will bring Army stocks to 87 percent of the objective of about 16,400 missiles.

A new heavy anti-tank assault weapon, the TOW missile, is presently under development. Scheduled to replace the ENTAC missile and the 106 mm. recoilless rifle, this wire-guided crew portable weapon system will provide greater range, accuracy and "killing" power than its predecessors. It is tentatively scheduled for initial procurement in the FY 1967-68 time period; R&D funding of $17.1 million will be required in FY 1966.

The FY 1966 budget also provides $61 million for the first major procurement of nearly 19,500 SHILLELAGH missiles for use on both the General Sheridan armored reconnaissance/assault vehicle and the M-60 tank. An additional $4.7 million will be required to complete development and testing of this infrared, command-guided anti-tank missile with the General Sheridan vehicle. In a related operational development project, we are requesting $3.5 million for further work on a new stabilized sight for SHILLELAGH and certain modifications to extend its range.

With respect to REDEYE, we are proposing, if the appropriate Committees approve our reprograming request, to use available funds to initiate procurement in FY 1965 in order to get this missile into the hands of troops as soon as possible. When Congress acted on our request last year, it deleted the entire FY 1965 REDEYE program ". . . pending further research and development efforts and proper utilization of procurement funds remaining from prior years." R&D on the missile is now complete, all prior year funds

have been used and a successful series of test firings performed. We now believe we are fully ready to produce this missile for both the Army and the Marine Corps. For the Army, we propose to reprogram $21.8 million this year to start the production program and we request $58.3 million to continue procurement in FY 1966. About half a million dollars is included in the FY 1966 R&D request to support engineer/service tests and to complete the engineering of training devices, together with $3.0 million more to initiate study of a more advanced follow-on weapon.

No additional HAWK or HERCULES surface-to-air missiles will be procured in FY 1966. However, we are proposing to reprogram $34 million in order to procure HAWK equipment during the current year. Of this amount, $14 million is required to build up stocks of equipment spares to more adequate levels and $19 million is required to procure the equipment needed to form the three new self-propelled HAWK battalions, previously described. No additional missile procurement will be necessary at this time as adequate stocks already exist to equip these new units. We are also requesting about $8 million in FY 1966 for certain high value repair parts and for continuing modifications of HAWK missiles presently in the inventory. No MAULER procurement is now anticipated.

The $1.9 million requested for SERGEANT is required for warhead adaptation kits.

About $16.7 million is requested for missile spares. Also included in the total for Army missiles is $6.0 million for target missiles to be used in the training of surface-to-air and anti-aircraft battalions and in tests of air defense weapons systems.

c. Weapons and Combat Vehicles

The $364.2 million FY 1966 request for weapons and combat vehicles is $108 million more than the $256.2 million now budgeted for FY 1965.

In order to give our light armor in Europe the ability to defeat the Soviet's latest armored personnel carrier, we propose to replace the 50 cal. machine gun presently mounted on our M-114 armored command and reconnaissance vehicle with a 20 mm. gun. The 50 cal. machine gun does not have the ability to penetrate light armor plate at the relatively long ranges dictated by the guns on the recently upgraded Soviet light armor, nor can it fire an explosive projectile which is highly desirable in certain combat situations. A 20 mm. gun, however, can do both. After evaluating a number of candidates for this very urgent requirement, we have tentatively settled on the German-produced Hispano-Suiza.

The decision to turn to offshore procurement in this case was not made lightly. The overriding consideration was the immediacy of the requirement; we are right now out-gunned in Europe. Only the Hispano-Suiza, of all the weapons evaluated, is immediately available; other possible choices are not in production. Moreover, despite certain malfunction problems which were present to some degree in all the alternatives, the Hispano-Suiza performs better as an armored vehicle weapon, the other guns considered having been developed specifically for the air defense role. A program to correct the deficiencies is underway and we would, of course, not actually contract for the gun until these malfunction problems had been successfully resolved. The FY 1966 request includes $15 million to buy an initial quantity of 1,080 guns. Once we finally decide to adopt this gun, we will also initiate action to acquire the technical data and licenses necessary to establish production in the United States. It should be noted that, in view of our agreement with the Federal Republic, there would be no adverse balance of payments implications associated with this transaction since any "additional" expenditures we make in Germany are to be fully "offset" by German procurements from us. In this connection, I want to remind you that the F.R.G. is buying more than $700 million a year in goods and services from the U.S.

The FY 1966 request provides $26.6 million for an additional 121 self-propelled 8 inch howitzers and 180 M-578 light recovery vehicles, which will bring inventory levels for these items up to 100 percent of the objectives.

We are also proposing $58.2 million for the initial procurement of 139 General Sheridan armored reconnaissance and airborne assault vehicles which will replace the M-41 light tank and the M-56 self-propelled 90 mm. gun in support of the field army.

A number of standard tactical vehicles use the same chassis as the M-113 personnel carrier -- including the M-577 command post carrier, the XM-548 cargo carrier and the M-125 self-propelled 81 mm. mortar. With the proposed FY 1966 program, we will have procured more than 60 percent of the objective for this family of vehicles, except for the 81 mm. self-propelled mortar, which completed development only a few months ago. Therefore, we propose to hold production of the basic chassis to the minimum sustaining rate of 100 per month so as to maintain the production base as long as possible. The FY 1966 increment includes 169 command post vehicles, 856 cargo carriers and 175 81 mm. mortar carriers at a total cost of $37 million.

In order to provide improved armored fire power in Europe, we propose to replace the present 105 mm. gun turret on some of the M-60 tanks in that area with a new turret employing both a 152 mm. gun and a SHILLELAGH missile launcher. So equipped, these tanks will have the advantages of both heavy armor and the superior first round "kill" capability of the missile and should give greater assurance of defeating the latest enemy armor. Our tentative program in terms of numbers would provide the equivalent of one SHILLELAGH - equipped M-60 battalion for each of the five divisions in Europe and would require the retrofit of 568 tanks. Of these, 243 would be funded in FY 1966 at a cost of $39.9 million. An additional $6.1 million is requested for the SHILLELAGH trainer.

The retrofit of the M-60 would be performed in Europe with SHILLELAGH turrets manufactured in the United States. The 105 mm. gun turrets would be returned to the United States where we tentatively plan on using them to up-grade an equivalent number of older M-48A1 tanks which would also be re-equipped with the M-60 power plant. However, since this part of the program would not be performed until FY 1967, no funding is required at this time.

Sufficient medium tanks (M-60s and M-48s) have already been funded to meet our current logistics objectives. For the present, we have decided not to program the M-60, the current medium tank, for areas other than Europe, the only place where there is a current or anticipated sophisticated armor threat. Nevertheless, we do wish to maintain, for as long as possible, the options to procure M-60s for other areas, to meet the tank requirements of friendly countries or to expand production quickly if the need arises. The minimum sustaining production rate for the M-60 chassis is 30 per month or 360 annually. In order to maintain a hot production line through FY 1966 funding, we are requesting funds for 360 M-60s. However, we do not expect that this procurement will raise our net total M-60 tank inventory above the desired level, inasmuch as tank sales to friendly countries over the FY 1965-66 period should amount to at least the FY 1966 quantity. The anticipated receipts from these sales have been used to reduce the total funding request for the FY 1966 Army program.

For the more distant future, of course, we have a jointly funded development program with the Federal Republic of Germany for a new improved main battle tank for introduction into the forces in the early 1970s. Fifteen tons lighter and more maneuverable in cross country operations than the present M-60, the new tank will also have a lower profile, greater fire power and a much higher first round

"kill" capability. Total development is expected to cost about $80 million to be divided equally between the United States and the Federal Republic. For this program in FY 1966, $22 million is included in the research and development request.

We also propose to procure 360 self-propelled 155 mm. howitzers at a cost of about $43 million, bringing the inventory to 92 percent of the objective.

d. Tactical and Support Vehicles

About $315 million is provided in the FY 1966 proposed program for the procurement of almost 62,200 trucks, trailers and other non-combat vehicles, about 22,400 less than the number programed in FY 1965.

In terms of cost, the more important items in this category are some 40,000 tactical trucks for which about $253 million has been requested. The proposed FY 1966 procurement of 1/4, 2-1/2 and 5-ton trucks would bring stocks of these items to an average of about 94 percent of the inventory objective. The truck inventory, however, would contain a number of over-age vehicles.

e. Communications and Electronics

We are requesting $240.1 million for the procurement of communications and electronics equipment in FY 1966, about $33.4 million more than FY 1965, but still nearly $200 million below the FY 1964 level. Procurement for the Army Strategic Communications System, STARCOM, shows a substantial decrease in FY 1966 -- $46 million compared with $59 million in FY 1965.

About $84.5 million is requested for procurement of radios, with 12,000 AN/VRC-12 vehicular radios being the largest single item in terms of cost. This will bring us to about 59 percent of our present goal for this radio. Also included in our proposed FY 1966 program is about $14.3 million for the purchase of Communications Security and Intelligence Communications Equipment, for functions which are included in the General Support Program.

f. Ammunition

The FY 1966 request of $344.9 million is about $73 million more than the current years level, although about the same as FY 1964 and FY 1963.

The largest single item, $44.6 million, is for the continued procurement of 275 thousand 155 mm. high explosive howitzer projectiles. We also propose continued procurements of several varieties of 105 mm. ammunition. For the 20 mm. gun previously mentioned, we propose to procure nearly four million rounds of ammunition at a cost of about $16 million. Concurrently, we propose to establish a production facility in this country for this ammunition, which would provide half of the mobilization requirement and all peacetime consumption needs.

g. Other Support Equipment

We are requesting $107.7 million for other support equipment. This is substantially the same amount programed for FY 1965. These funds will be used for such items as electric field generators, road graders, cranes, tractors, bridge components, shop equipment, fork lift trucks, etc.

h. Production Base Program

The $65.4 million requested for production base support is somewhat less than the amount programed for FY 1965.

D. NAVY GENERAL PURPOSE FORCES

During the past year we have continued our analysis of Navy general purpose forces requirements. As a result of that analysis, we now believe that some changes should be made in the programs which I presented to the Committee last year. Although there are still important uncertainties, we now find ourselves, for reasons I will discuss later, to be generally in better shape than we previously thought with regard to anti-submarine warfare. Further improvements, however, are needed in the fleet's air defense and mine-clearing capabilities.

The fleet air defense problem is not new. Last year I explained to the Committee our reasons for terminating the development of the TYPHON ship-to-air weapon system and cancelling the previously planned construction of TYPHON-armed

frigates and the conversion of 13 destroyers and two frigates to TARTAR DDGs and one frigate to a TERRIER DLG. At the same time, I also described the programs we were undertaking to improve further the existing ship-to-air missile systems (TARTAR, TERRIER and TALOS), to develop a new standardized missile to replace TARTAR and TERRIER and to study a completely new ship-to-air missile system for the 1970s. These efforts are now well along.

The existing ship-to-air missile systems have been substantially improved in the last two and a half years. The "kill" probability and readiness rate of TERRIER have been increased by a factor of two; similar, though less spectacular improvements have been achieved in the case of both TARTAR and TALOS. [redacted]

The new standardized missile is well along in development and we plan to buy 100 missiles in FY 1966 for operational test and evaluation with the first procurement for inventory tentatively planned for FY 1967. The standardized missile, which uses the same launching systems, will gradually replace the TARTAR and TERRIER missiles on existing ships. These two programs will greatly increase the AAW capabilities of present missile ships.

It is my judgment at this time that no new missile ships should be constructed or additional existing ships converted to missile armament until a completely new surface-to-air missile system is available sometime in the early 1970s. In the interim, I believe we should improve the AAW capabilities of the existing missile ships. I will discuss this proposal in context with the Multi-Purpose Ship Program.

The mine-clearance problem relates in large measure to our program to improve our amphibious lift capabilities. Last year I informed the Committee that we were undertaking a major effort to modernize the amphibious lift forces with faster ships. To take advantage of the increased lift capability,

we must be able to clear enemy mines from the waters in which these forces must operate and on a time schedule which would not delay the amphibious landing. I will provide the details of our recommendations in this area in the discussion of Mine Warfare Forces.

Another general problem concerning the Navy's General Purpose Forces relates to the use of nuclear power for surface ships. As I stated last year, the key to solving this problem is the availability of a more economic power plant. Last summer the President approved the development, at a cost of about $43 million through FY 1966, of a new reactor, two of which could power an attack carrier. (Part of this project is funded in the AEC budget; the part involving non-nuclear power conversion components is included in the Department of Defense budget, $6.6 million in FY 1965 including $2.6 million in Emergency Funds and $14.2 million in the FY 1966 budget request.) The extent to which this new reactor would reduce the cost of a nuclear-powered attack carrier has yet to be determined, but I am hopeful that it will enable me next year to request the application of this reactor to the new carrier we tentatively plan to start in FY 1967.

In any event, this new reactor would be too large for use in destroyer-type ships. For them, we still need a more economic light weight reactor and we hope that, as our technology advances, the development of such a reactor will become feasible. At present, the cost of nuclear-powered frigates, estimated at approximately $150 million for the lead ship and $128 million for the follow-on ships compared with the DLGs authorized in FY 1962 at a cost of $73 million (including black oil for a period equivalent to the life of the DLGN cores), appears disproportionate to the benefits to be gained. The second nuclear-powered firgate, TRUXTUN, now being completed, will be delivered to the fleet in FY 1966, giving us a nuclear-powered task force of one attack carrier, one cruiser and two frigates. Our investment in this task force, even excluding the aircraft, is already $1.1 billion.

In total, we have planned a force of 868 Navy general purpose ships for end FY 1966 and 858 for end FY 1970, compared with 833 at end FY 1964. And, we have tentatively programed for the FY 1966-70 period the construction of 226 ships and the conversion of 52 others.

1. Attack Carrier Forces

a. Ships

As shown on Table 8, we have programed a force of 15 attack carriers through FY 1969, the same number planned last year; however,

the mix of carriers will be somewhat different. Last year we had planned to keep all three MIDWAY-class carriers in the force, unchanged. We now propose to modernize two of these carriers, the MIDWAY and the F.D.R. (The third MIDWAY-class ship, the CORAL SEA, has already been modernized.) The MIDWAY will undergo modernization beginning in FY 1966 and rejoin the fleet in FY 1968. The F.D.R. will undergo modernization beginning in FY 1968 and rejoin the fleet in FY 1970. In order to keep the overall carrier force level up to 15 during this period, it is planned to retain through 1969 an ESSEX-class carrier, the HANCOCK, previously scheduled to phase out in FY 1965 when the FORRESTAL-class carrier, AMERICA, becomes operational.

To avoid major fluctuations in personnel and equipment, the Navy will place the MIDWAY-class CORAL SEA in reserve status this June when the AMERICA joins the operational fleet, and retain the HANCOCK in continuous service. The CORAL SEA will be reactivated when the MIDWAY phases out for modernization in November 1965. This accounts for the decline of one MIDWAY-class carrier at end FY 1965.

Both the MIDWAY and F.D.R. were commissioned in 1945 and are scheduled to be retained in the attack carrier force until FY 1977 and FY 1979, respectively. However, several major technological changes which greatly affect carrier capability have occurred since that time. First, the gross weight of carrier-based aircraft has increased significantly from about 21,000 pounds for the A-1 and F-1 to over 76,500 pounds for the RA-5C. With their present catapults, arresting gear and elevators, the MIDWAY and F.D.R. could not operate such aircraft.

Second, the payload capability of carrier-based aircraft has increased. As a result, the ordnance-handling facilities of these ships are no longer adequate to sustain the high rates of operation which otherwise could be attained. In addition, changes in the physical characteristics of air-launched weapons require the modification of existing storage facilities.

Third, the Naval Tactical Data System (NTDS) is now being introduced into the fleet, and all combat ships must be fully integrated into the system if the large advances in anti-air warfare capabilities that this system makes possible are to be achieved. (The installation of NTDS more than doubles the number of aircraft that can be tracked and the number of intercepts that can be handled and provides a significant increase in ECCM capability.)

The planned modernization of the MIDWAY and F.D.R. will essentially correct these deficiencies, and the resultant substantial

increase in effectiveness will ensure the continued utility of these two ships for at least ten years after they rejoin the fleet.

The cost of modernizing both ships will be about $167 million. We are reprograming $14.0 million in FY 1965 funds to procure long lead time items, and $70.3 million is included in the FY 1966 budget. It should be noted, however, that these costs will be largely offset by savings in aircraft procurement and operating costs.

The smaller ESSEX-class carrier, (the HANCOCK) which will be retained in the force in place of a MIDWAY-class carrier, loads fewer heavy attack and reconnaissance aircraft than does a MIDWAY, and though it carries the same number of fighter aircraft, 24, it cannot safely operate the larger F-4s. It will, therefore, continue to operate the F-8s, which we already have, and the number of F-4s required can be reduced accordingly.

As I informed the Committee last year, we plan to reduce the number of attack carriers to 14 in FY 1970 and 13 in FY 1972. My review of this issue during the past few months confirms my judgment that the introduction of the far more effective FORRESTAL-class carriers, the modernization of the MIDWAY and the F.D.R., the introduction of the A-7A, the A-6A and the F-111B, the release of the carriers from the strategic mission, as well as the overall increase in the quantity, range and effectiveness of land-based tactical air power generally, justify some reduction in the number of carriers.

We are continuing to program tentatively the construction of a new attack carrier in FY 1967 to replace the last of the ESSEX-class carriers in FY 1972. With delivery of that carrier, the force will include one or two nuclear-powered and eight or nine FORRESTAL-class carriers (depending on whether the FY 1967 carrier is constructed with nuclear power), and three modernized MIDWAY-class carriers.

b. Carrier Aircraft

The air complement of the attack carrier force currently consists of 15 carrier air groups and two replacement pilot training groups. By the end of the current fiscal year, these units will total about 1642 aircraft, as shown in the middle of the second page of Table 8.

The decline in the total number of fighters in FY 1969 and FY 1970 reflects a decision to substitute F-111Bs for F-4s on a one-for two basis. You may recall that I said last year that:

". . . Because of its greater endurance, longer radar and missile range, and its ability to control six air-to-air missiles simultaneously, the F-111B should offer a substantial increase in effectiveness over the F-4B and may replace them on less than an one-to-one basis."

A recent study of tactical air power concluded that the F-111B armed with the new PHOENIX promises such large gains in combat effectiveness that, if the promises are realized, perhaps only one squadron will be required per carrier instead of one squadron of F-111Bs, plus one squadron of F-4s. Also, there will be only two MIDWAY-class carriers operating during the FY 1966-70 period, thus reducing the F-4 requirement by two squadrons. Accordingly, we are reducing the previously planned FY 1966 procurement of F-4s. I will discuss the aircraft procurement program in greater detail later in this statement.

As I stated last year, we will continue to increase the number of attack aircraft per carrier, taking advantage of the space made available by the reduction in heavy attack aircraft as the carriers are relieved of their strategic mission in 1966. This year, we increased the number of light attack aircraft per squadron from 12 to 14, and by end FY 1967, we intend to increase the number of light attack squadrons per FORRESTAL-class carrier from two to three. The total number of light attack aircraft in the carrier forces is planned to increase by more than 20 percent over the program period.

We will continue to buy two types of attack aircraft, the A-6A which is especially designed for low-level bombing at night and in bad weather, and the A-7A (VAL) the new highly effective replacement for the A-4E which I described to you last year.

As shown on Table 8, the number of reconnaissance aircraft in the carrier forces will continue to increase over the next few years, reflecting the growing importance of this function. The program will provide six RA-5Cs per FORRESTAL-class carrier. We have also included nearly $9 million in the FY 1966 budget to complete the project for extending the life of the RF-8As, which will continue to be used aboard ESSEX and MIDWAY-class carriers.

During the past year, we continued to encounter difficulty in the development of some of the electronic sub-systems for the E-2A, but we are still hopeful that they can be made acceptable even though the performance may be below the original design specifications. As a result of these difficulties, we have had to stretch out through FY 1968 the previously planned procurement program.

2. ASW - Surveillance and Ocean Patrol Forces

Last year, in discussing our ASW capabilities, I said, "We know that the Soviets are building nuclear-powered submarines, both missile-firing and attack [redacted] Accordingly, the ASW force structure . . . must be considered highly tentative beyond fiscal year 1967."

Since that time, the Navy has completed the first phase of a study of anti-submarine warfare [redacted]

Although I do not consider the studies completed to date by any means conclusive [redacted] they do present a more favorable picture than we had before, sufficiently so to permit some adjustment in the ASW programs I presented here last year.

[redacted] For a number of years we have given budget priority to new ASW ships and aircraft. Now we must give priority to the acquisition of better weapons and the improvement of sensors. [redacted]

a. ASW Carriers (CVS)

We now have nine CVSs, all ESSEX-class. These ships are still highly serviceable as ASW carriers, since they have the speed, range, and space required for all ASW weapons systems now current or likely to be developed in the next few years. Moreover, the older CVSs will be gradually replaced by the more up-to-date ESSEX-class CVAs, as they are in turn replaced by new FORRESTAL-class ships in the attack carrier force.

The ASW carrier forces will continue to be equipped with both fixed-wing and helicopter aircraft as shown on Table 8. We are now buying the S-2E long range search aircraft for the fixed-wing requirement and the SH-3A for the helicopter. As these aircraft are delivered they will replace the older types. We have also provided each carrier with a few A-4Cs released from the attack carrier forces in order to give them a limited intercept and air defense capability. In addition, we maintain 12 squadrons of fixed-wing aircraft and four squadrons of helicopters in the Naval Reserve.

b. Attack Submarine Forces

By the end of the current fiscal year, the submarine forces, excluding POLARIS, will number 104 ships including 23 nuclear-powered. We had planned to have 27 SSNs in operation by that date but, as in the case of the POLARIS, the submarine safety program caused a delay in the program. By end FY 1966, we expect to be back on schedule.

[redacted]

[redacted] How many submarines would be required and how many should be nuclear powered is not yet clear. By the end of the next fiscal year, we will have a total of 105 and we plan to maintain that level through the program period. A total of 50 SSNs have already been funded (excluding the THRESHER which was lost). [redacted] On the basis of our present knowledge of the Soviet threat and our own requirements, I feel that a rate of four per year would be adequate. But, if our continuing study of the ASW problem should reveal that a faster rate is required we can increase the program next year.

Of the conventionally-powered submarines in the active fleet, 12 were delivered to the Navy during or after the Korean War. These we still plan to modernize in fiscal years 1967-68, which should enable them to serve well into the 1970s. Nine submarines built at the end of World War II have already been modernized.

c. Destroyer Escorts

There are now 23 destroyer escorts in the fleet. The first of the six DEGs (destroyer escorts armed with the TARTAR missile), funded in FY 1962 and FY 1963, will be delivered to the fleet in early FY 1966. All six should be delivered by end FY 1967. A total of 55 DEs has been funded through FY 1965.

[redacted] For reasons similar to those I discussed in connection with the SSN construction program, I believe [redacted] will meet our requirements as we see them now, particularly in view of certain other changes we propose in the ASW program. [redacted] The rate of delivery during the FY 1966-68 period will be slower than I indicated last year. We had hoped to reduce the total lapsed time between the placing of the contract and the attainment of operational status of these ships [redacted] We have not been successful [redacted] and the schedule has been adjusted to the old basis.

Two years ago we began a project to develop a new type destroyer escort (SEA HAWK) specially designed "from the keel up" for anti-

submarine warfare. Because some of the basic technology required for such a ship has yet to be developed, we are concentrating on the required sub-systems -- an integrated sonar system featuring an active [redacted] an ASW command and control system; a gas turbine propulsion unit; and an integrated combat system. The results of these four separate developments may, where applicable, be backfitted to currently operational or programed ASW surface ships as well as applied to a future high performance DE optimized for all ASW tasks.

Last year we cancelled our plan to convert 13 DD-931 class destroyers to TARTAR missile ships for reasons which I have already discussed. All of these ships are less than nine years old, and they are fast enough to escort attack carriers. In their present configuration, however, they lack a standoff weapon and other modern ASW equipment. We can provide these ships with ASROC, including the Underwater Battery Fire Control System, improved communications equipment, a new variable-depth sonar and improved ECM capabilities plus certain minor structural modifications, at a cost of about $12 million each. With these improvements the DD-931-class destroyers would be comparable to, or even better in the ASW role than, the DEs we are now building at the cost of about $27 million each. Accordingly, we have included $60 million in the FY 1966 budget for the first five of these conversions; five more are scheduled for FY 1967 and the last three in FY 1968.

By the end of the current fiscal year, there will also be 195 other destroyer types in the active fleet, including multi-purpose and ASW ships. Last year I told you that beginning in FY 1967, we planned to retain a number of DDs in the active fleet beyond their scheduled retirement dates in order to increase our convoy coverage capabilities at a small increase in program costs. In order to keep up the overall DE/DD force level, we plan to retain additional DDs beyond their currently scheduled retirement dates, one in FY 1966, and between 9 and 15 during the FY 1967-70 period.

We also have a large number of destroyer-type ships in the reserve fleet. The 38 destroyer types in the Naval Reserve Training Fleet could join the fleet within a matter of days. These ships are kept in operating condition by partially manning them with active duty Navy personnel, the balance of the crews being drawn from the Naval Reserve. Another [redacted] ships could probably be activated in an "as is" condition from the [redacted] reserve fleet within M+2 months and [redacted] of course, our Allies have several hundred destroyer-type ships. Thus, the total

number of destroyer-type vessels available to the Allied forces would be quite large, although of variable quality, even in the first months of war.

d. Patrol Craft

Subsequent to the enactment of the FY 1965 Defense Appropriations Bill, we requested approval to reprogram $7.9 million of FY 1965 funds to procure two hydrofoil patrol boats (PGH). This reprograming action was not approved by all of the Committees involved. Instead, the Department was instructed to include the two PGHs in its FY 1966 budget, which we have done. In addition, the FY 1966 budget includes the ten patrol craft previously tentatively scheduled for procurement in FY 1966, making a total of 12, as shown on Table 9. [redacted]

e. Patrol Aircraft

As shown on Table 8, the number of ASW patrol aircraft will decline somewhat during the FY 1966-70 period as the older shore-based SP-2s begin to phase out and the new P-3A comes into the inventory. Last year we had planned to reduce the number of patrol squadrons from 30 to 29 by phasing out one squadron of obsolescent SP-5 seaplanes in FY 1965. We still intend to phase out the SP-5s as planned. However, in order to maintain the 30 squadron level which we feel offers real advantages in overall ASW capability [redacted], we now intend to retain 12 more SP-2s in the active force than we had planned last year. And to provide for the eventual replacement of this extra squadron of SP-2s, and to modernize the 30 squadron force generally, we are stepping up our planned procurement of the new P-3A from [redacted] This is another change offsetting the reduction in the SSN and DE construction programs. I will discuss the ASW weapons and equipment program later in connection with other Navy procurement.

In addition to these 30 squadrons, we maintain 11 squadrons of patrol aircraft in the Naval Reserve.

[redacted]

[redacted]

3. Multi-Purpose Ships

On Table 8, under the heading "Multi-Purpose Ships," we have grouped those ships which possess capabilities for both anti-submarine warfare and fleet air defense. There will be 263 such ships in the fleet at the end of the current fiscal year, the bulk of which will be destroyer types. [redacted] of these ships will have a guided missile capability -- [redacted] guided missile frigates in the fleet in FY 1966, including the nuclear-powered TRUXTUN; [redacted]

As I noted earlier, our tentative plan to construct seven TYPHON ships and convert 16 others to either a TARTAR or TERRIER configuration

was cancelled last year. The last cost estimate for this program was $1.8 billion. The TYPHON weapon system proved to be far too large, complex and expensive to be deployed. The 15 TARTAR DDGs and the TERRIER DLG conversions were cancelled pending successful completion of the TARTAR improvement program or the availability of a new, better missile system. But, as I said at that time, these cancellations should not be interpreted as reflecting lessening concern for the state of fleet air defenses. We now plan to program for surface ship modernization and development of the system about $937 million over the FY 1966-70 period for fleet air defense, $54.6 million in FY 1966 for R&D alone.

Over $340 million has been reprogramed since FY 1963 for the so-called TARTAR, TERRIER, TALOS "Get Well" program in order to effect design and engineering changes to ships already built or under construction. The "Get Well" program will continue into FY 1966 with funds still available from past reprogramings.

Another $108 million has been programed in the FY 1963-65 period to improve the missiles themselves, and $39.6 million more is included in the FY 1966 budget to continue this work. As part of this effort, known as the SAM Improvement Program, we have undertaken the development of a new "standardized" missile for use with both TARTAR and TERRIER launchers. This new missile is being designed to achieve higher reliability with less maintenance, to provide both a low altitude and multi-target discrimination capability, and at a smaller cost per missile than either the TARTAR or TERRIER.

To provide for better fleet air defense in the 1970s, the Navy is currently studying an Advanced Surface Missile System (ASMS). Over $8 million is being spent this year, and $12 million is included in the FY 1966 budget to complete a Project Definition Phase and to initiate systems development, if it proves to be feasible. This system, however, will not be available until the early 1970s and in the interim we are proposing other measures to improve fleet air defense.

As shown on Table 9, we now propose to convert or modernize 22 existing guided missile ships -- four cruisers and 18 frigates -- over the FY 1966-70 period at a total cost of $572 million. During conversion/modernization, these ships are not considered operationally deployable, which accounts for the decline in DLGs and CG/CAGs shown on Table 8. In addition, we intend to make minor modifications to five ships -- one cruiser and four frigates -- during their regularly scheduled overhaul. These are not considered "conversions" and are therefore not included in this Table.

[redacted]

The first TERRIER missile ships authorized -- two heavy cruisers, three light cruisers and four frigates -- were fitted with a system based on the beam-riding principle. [redacted] We propose to refit the four frigates and two heavy cruisers, at a cost of $201 million, with the more modern and effective TERRIER homing system, one frigate each fiscal year, 1966-69, and one cruiser each in FY 1968 and FY 1970. Conversion of the three light cruisers would be very expensive ($119 million) and not worth the cost.

In addition to these six conversions, we propose to modernize 16 other ships -- two cruisers and 14 frigates -- which already have the homing-type TERRIER. The modernization would consist mainly of the installation of the Navy Tactical Data System (NTDS) with the associated weapons control equipment and the SPS-48 three-dimensional radar. Certain ships would also be fitted with a high-powered tracking and illuminating radar. [redacted]

In our FY 1966 program review, we also considered constructing a third DLGN to provide an additional nuclear powered escort for the CVAN ENTERPRISE and to augment the air defense capability of the nuclear task force as a whole. However, after considering all the relevant factors, including the size and nature of the likely threat, the high cost of a new DLGN (now estimated to be about $150 million) and the air defense capability already available for the ENTERPRISE (five TERRIER and one TALOS systems on the three existing escorts,) I am not recommending construction of the DLGN at this time. If, after further study, we find that additional air defense capability is needed, we should consider installing a SAM system on the ENTERPRISE itself, as has been done with the FORRESTAL-class carriers. Although a SAM system on the CVA is not as effective as one on an escort deployed in the direction of the threat, such a system would cost only one-fifth as much as a new DLGN. The work could be accomplished during the "re-coring" of the ENTERPRISE's nuclear reactors presently programed for FY 1968, thus providing the additional capability at the same time or earlier than if a DLGN were authorized in FY 1966.

4. Mine Warfare Forces

The mine warfare force proposed for the FY 1966-70 period is essentially the same in size -- 88 ships -- as that presented to the Committee for the past two years. In addition, we also maintain 12 minesweeping vessels in a high state of readiness in the Naval Reserve

[redacted]

Training Fleet. Sixteen new minesweepers (MSOs) will be constructed in FYs 1966-1968 (four in FY 1966) as replacements for older ships (MSCs) and one Liberty ship will be converted in FY 1966 to a Minesweeper Special (MSS) the same program as planned last year. The MSOs will have a dual minesweeping and minehunting/destruct capability and will be more seaworthy and have greater endurance and speed than the MSCs. [redacted]

We now propose to add two MSSs and two Mine Countermeasure Support Ships (one each in FY 1969 and FY 1970) to the previously approved program. The support ships are needed to provide logistics support to existing and planned mine countermeasure forces.

To increase the effectiveness of existing forces, we also plan, in FY 1966, to procure [redacted] new minehunting sonars which will be retrofitted into existing MSOs. [redacted]

5. Amphibious Assault Ships

Last year, I stated that although we had greatly increased our amphibious lift capability in 1961 from 1-1/2 division/wing teams to approximately two and the number of amphibious ships from 111 to 131, the slow speed of most of these ships, only 8-1/2 to 13 knots, and a shortage of combat vehicle lift made it necessary to program another substantial increase in this area. I therefore proposed that we retain in the active fleet ships which had previously been scheduled for retirement and increase the construction program from the 36 ships previously planned for FY 1965-1968 to 52 ships with 13 more added in FY 1969. This revised shipbuilding program doubled the number of LSDs (Landing Ship Dock) and tripled the number of LSTs (Landing Ship Tank) while halving the construction program for LPDs (Amphibious Transport Dock) and LPSs (Amphibious Assault Ship) to bring them into balance with the other types.

Our studies this year confirm that this revised program will significantly [redacted]

provide for an orderly replacement of World War II ships, and improve response time. These new ships, together with the modernized lift now in the fleet or under construction, will provide, by FY 1972, 20-knot lift for 1-1/2 division/wing teams. Lift for the remaining one-half division/wing team would be provided with older ships. A total of 15 ships are planned for construction in FY 1966 at a cost of $494 million.

In order to provide increased ship-to-shore firepower to "cover" the landing forces during an amphibious assault, we propose to reactivate during FY 1966 three Medium Landing Ships, Rocket (LSMR) and one Inshore Fire Support Ship (IFS) now in the reserve fleet. The LSMR can fire 5,000 5" stabilized rockets at ranges of 2,500, 5,000 and 10,000 yards and has a maximum sustained speed of 12-1/2 knots. The IFS is a smaller but faster rocket launching ship. In addition, we now plan to retain in the fleet two Heavy Gun Cruisers (CA) shown under Multi-Purpose Ships on Table 8 which had previously been scheduled for deactivation in FY 1967-1968.

The requirement for ship-to-shore firepower is still under study and we may recommend at a later time the activation of additional ships from the reserve fleet or the construction of a more efficient landing force support ship.

6. Logistic, Operational Support and Direct Support Ships

There are now about 160 logistical and operational support ships in the force and we plan to maintain about that number throughout the program period. We had hoped that we would be able to phase more of the older ships out as new and more efficient ships were introduced. However, our analyses show that some of the older ships would be needed to satisfy peak requirements. We are proposing construction of seven logistical and operational support ships in FY 1966 at a cost of $259 million, one less than planned last year. One of the two fast supply ships (AFS) previously included in the FY 1966 program has now been tentatively scheduled for FY 1970, thereby leveling out the rate of construction to one ship per year during FY 1966-1970. For the program period, we propose to construct 62 ships at a total cost of over $1-1/2 billion.

In addition to the proposed ship construction program, we are also requesting $7.1 million in FY 1966 for the procurement of ten UH-46A helicopters. These helicopters will be used aboard underway replenishment ships to provide a vertical replenishment capability.

We also plan to construct two direct support ships in FY 1966, one Submarine Tender (AS) and one Destroyer Tender (AD), at a cost of about $117 million, to replace older, less effective ships. These new tenders are needed to service the growing fleet of nuclear-powered submarines and guided missile destroyers.

The total Navy General Purpose Forces shipbuilding and conversion is shown on Table 9.

7. Other Navy Aircraft

As shown on Table 8, the Navy will maintain about 81 Fleet Tactical Support Aircraft during FY 1966-1970 -- 31 heavy transports and 14 medium transports to provide organic Navy airlift, and 36 carrier-on-board delivery aircraft used to deliver high priority items directly to the carrier forces.

The Navy will also maintain about 335 Fleet Support Aircraft throughout the program period. Of this total: 30 are used to conduct tests on fleet aircraft weapons systems and develop tactics for their use; about 150 helicopters are used for general utility purposes such as search and rescue for carriers, vertical replenishment, hydrographic surveys, icebreaking and drone retrieval; and about 150 fixed-wing aircraft are used for various types of fleet training such as torpedo retrieval, towing targets or controlling drones for fleet gunnery or missile training and for electronic countermeasures exercises.

The inventory of Other Support Aircraft (for general administrative use) which has been declining steadily over the last few years will begin to level out over the program period at about 170 aircraft, about 55 percent of the number we supported in FY 1962.

8. Marine Corps Forces

During FY 1966 and throughout the program period, the Marine Corps, manned by about 193,000 active duty personnel, will continue to maintain an active force of three combat divisions and three aircraft wings plus combat and support units. The Marine Corps Reserve has now been reorganized to provide a fourth division/wing team upon mobilization.

As shown on Table 10, all Marine Corps forces will remain at present levels over the FY 1966-70 period. Though not evident from the Table, we have taken steps to augment the capability of the existing HAWK missile battalions. At present, each battalion consists of a Headquarters and Service battery and four firing batteries of which

three are in active status and the fourth in reserve. We now intend to activate the fourth battery for each of the active duty battalions at a small increase in operating costs; they should become operational in FY 1966. The addition of a fourth battery to each active duty battalion will provide two to three times more coverage than the present three battery formation and will provide defense in depth regardless of the direction of attack, as well as an increased capability to cope with saturation raids.

At the end of the current fiscal year, the three active Marine Aircraft Wings will have about 1130 combat and combat support aircraft. The number of fighter aircraft will remain at 225 over the FY 1966-70 period, but the effectiveness of this force will improve greatly as the new F-4s replace the last of the F-8s in FY 1966-67. The number of attack aircraft will decline somewhat, however, as the A-6A and A-7A begin to replace the older A-4s. The number of helicopters on the other hand will continue to increase over the next few years, reflecting our recent emphasis on the vertical envelopment capability.

To meet Marine Corps fighter requirements we will continue to buy the F-4, and by end FY 1968, all 15 fighter squadrons will be equipped solely with F-4s armed with SIDEWINDER and SPARROW air-to-air missiles. We will begin to replace older Marine Corps F-4s with the newer models when they are released from the Navy as the F-111B becomes available.

For the attack squadrons, we will continue to buy the A-6A to provide the Marine Corps with an all-weather, close-air support and interdiction capability. We also plan to make our first buy of the new A-7A (VAL) aircraft for the Marine Corps in FY 1966 and the first units will become operational in FY 1968.

We completed our procurement of photographic reconnaissance aircraft for the Marine Corps in FY 1965. The first of the new RF-4Bs will begin replacing the obsolescent RF-8As in FY 1966. As we are replacing the RF-8As on a one-for-one basis with the more highly sophisticated RF-4B, we can expect to realize significant gains in reconnaissance capability.

For the vertical envelopment mission, we are buying large quantities of CH-46A medium helicopters, a tandem rotor, twin turbine-powered helicopter with a normal payload of 4,000 lbs. or 17 men. This aircraft is replacing the single rotor, reciprocating engine UH-34D which has a cargo load of only 2,700 lbs. or 12 men. We are also buying smaller quantities of the CH-53A all-weather cargo and troop transport helicopter. First deliveries of the CH-53A will be made in FY 1966.

9. Navy and Marine Corps Reserve Forces

As I mentioned earlier, the Navy maintains in full operational readiness as reserve training ships a force of 38 destroyers and destroyer escorts and 12 mine warfare vessels, shown on Table 11. As more modern ships become available from the active forces, some of the older ships will be phased out. In addition to these 50 reserve training ships, the Navy also maintains about 600 ships of all types in Reserve Fleet categories "B" and "C". Most of these ships could, if required, be brought to full operational readiness by M+6 months although their capabilities would be quite different from that of our active fleet ships.

The Marine Corps Reserve, as I stated last year, now includes, with the exception of certain headquarters elements which will be formed by the active forces upon mobilization, most of the elements of the 4th division/wing team, in addition to certain elements required to augment active forces upon mobilization.

Navy and Marine Corps reserve aircraft will continue to total about 805 aircraft throughout the program period, as shown on Table 11. Current plans call for the reserve components to produce 40 squadrons after "call-up" -- 27 ASW, six attack, two fighter and five helicopter support squadrons.

10. Navy and Marine Corps Aircraft Procurement

As shown on Table 12, we propose to buy a total of 659 aircraft of all types in FY 1966 at a cost of $1,545 million to continue the modernization of the Navy and Marine Corps aircraft inventories.

To meet the fighter requirements of both the Navy and the Marine Corps, we propose the procurement of 90 F-4s in FY 1966 compared with 124 in FY 1965. This is significantly fewer than the 132 F-4s we scheduled last year for procurement in FY 1966; but, as I mentioned earlier, the modernization of the two MIDWAY-class carriers entails the removal from the force for five years of one carrier operating two squadrons of F-4s and its replacement by an ESSEX-class carrier operating F-8s which are already available. In addition, last year we had tentatively planned to replace F-4s with F-111s on a one-for-one basis. We have now decided to replace the F-4s on a less than one-to-one basis. Consistent with this decision, we are cutting a third squadron of F-4s from the procurement level planned last year.

During the current year, we will begin to buy the F-4J with the new AWG-10 fire control system and the ASW-21 command data link. Its

principal advantage over the F-4B, however, will be an improved capability against low altitude targets since it will be fitted with a pulse doppler radar.

Last year we planned to procure our first increment of 15 F-111Bs in FY 1966. We have, however, encountered some development problems with the fire control system for the PHOENIX missile. Since the system must be incorporated into the airplane, we have had to slip the aircraft production schedule and have reduced the FY 1966 buy from the 15 previously planned to four. An additional 128 aircraft are programed for the FY 1967-1969 period, the same number planned last year, and we have tentatively scheduled 88 aircraft for FY 1970. Despite the delays in the PHOENIX, we still plan for the first squadron of F-111Bs to be operational by the end of FY 1969.

We are proposing to buy 140 A-7As in FY 1966, our first major procurement of this aircraft. We will continue to buy the A-7A in large numbers through FY 1970.

Funds are also included for the procurement of 74 A-6As in FY 1966, the same number as planned last year. An additional 134 aircraft will be procured in FY 1967-1968 to complete Navy and Marine Corps requirements.

Last year we requested and the Congress appropriated $176 million for the E-2A early warning aircraft program, including the procurement of 20 aircraft to add to the 59 for which funds were appropriated in prior years. As I mentioned last year, this program has encountered considerable cost increases resulting from unanticipated technical difficulties with some of the electronics subsystems, particularly the long-range radar. The E-2A program was initiated eight years ago in FY 1957, but the radar problem has not as yet been solved.

I noted earlier, in connection with the Air Force AWACS project, that the technology involved in airborne radar detection of aircraft in the presence of surface clutter is extremely difficult but also extremely important to air defense. Therefore, we believe the E-2A program should be continued, but at a slower rate. We now propose to hold production to one per month in order to keep the line going while we continue our efforts to solve the radar problem. The 24 aircraft funded in FY 1963 and the 14 in FY 1964 will be stretched over a period of three years and two months, leaving ten aircraft to be funded in FY 1966 to continue the one-a-month rate. $106 million of the $176 million provided for FY 1965 will be applied to the 59 aircraft authorized through FY 1964, making a total through the current fiscal year of $970 million (including R&D). The remaining $70 million has been

[redacted]

applied against the FY 1966 budget. The FY 1966 E-2A program will require $123.6 million in TOA -- $121.2 million for ten aircraft and $2.4 million for continued development of the radar.

We have tentatively programed an additional 12 aircraft in FY 1967 and 12 in FY 1968, which would complete the requirement. The E-2A could significantly increase the Navy's air defense capabilities, particularly against low altitude attack -- provided that the deficiencies in the electronics subsystems can be corrected.

For the ASW carrier forces, we propose to buy 36 S-2E fixed-wing aircraft, 12 less than proposed last year. This should be our final buy of the S-2E, as it meets our force objective of 160 aircraft. We now intend to procure only 24 SH-3D helicopters in FY 1966, instead of the 30 planned last year but we are adding another 24 for FY 1967. This schedule will provide an orderly procurement pattern toward reaching our total force requirement.

As I indicated earlier, we intend to increase the number of patrol squadrons from 29 to 30. In addition, in order to make the P-2 available for the reserve forces and to modernize the 30 squadron force generally, we now propose to procure 180 P-3A aircraft over the FY 1966-1969 period instead of the 128 proposed last year, or 45 per year instead of 32 per year.

A total of 140 helicopters is requested for the Navy and Marine Corps -- 90 CH-46As, ten UH-46As and 40 CH-53As. Last year we had planned to procure 110 CH-46As in FY 1966; but we have reduced our planned procurement to 90. We had also proposed to equip the CH-53A with a very elaborate avionics package called IHAS, which turned out to cost about $600,000-700,000 per aircraft. We are now studying the possibilities of applying IHAS components to other Navy and Army helicopters, with the hope of cutting unit costs in half through a larger volume of procurement. This system would provide the CH-53A and other helicopters an improved all-weather capability to navigate in formation to assault landing areas by day or night or in bad weather.

For the fleet tactical support role, I am recommending procurement of five C-2A carrier-on-board delivery aircraft in FY 1966. We had intended to complete our procurement of this aircraft in FY 1966 but, because of the recent slippage in the C-2A program, we have deferred part of our previously planned FY 1966 procurement to FY 1967. When completed, the 23 C-2As in the program will provide one aircraft for each attack and ASW carrier.

[redacted]

In the trainer category, we propose to procure 91 aircraft in FY 1966, including 18 T-2Bs and 73 TA-4Es. Based on our revised estimates of requirements for basic jet trainers, we have reduced our procurement objectives for the T-2B from 36 previously planned for FY 1966-67 to 18, thereby cancelling the FY 1967 quantity. However, we now plan to procure a total of 152 TA-4Es, a two-seat modification of the single-seat A-4E. The TA-4E will replace the TF-9Js in the Combat Readiness Air Wings and the Marine Training Squadrons, thereby releasing the TF-9Js to the Advanced Training Command. We have already reprogramed with Congressional approval $58.5 million of FY 1965 funds to procure an initial increment of 35 aircraft. $57.6 million is included in the FY 1966 budget to buy 73 aircraft, and an additional 44 will be procured in FY 1967.

11. Other Navy Procurement

The tentative logistics objective for the Navy in 1966 is to acquire sufficient stocks to support six calendar months of combat consumption with an average of two-thirds of the force committed. More specifically, we propose to provide ship fills and initial equipment allowance for the active fleet and for selected reserve ships, plus 90 combat days of consumption for the active fleet and high readiness reserve ships (category ALPHA - 50 ships), and 30 combat days for other selected reserve ships (category BRAVO - 202 ships). Anti-aircraft missile requirements, however, have been adjusted to conform to our best estimates of aircraft targets that might actually have to be engaged.

With respect to attack carrier aviation, our tentative objective is to provide initial allowances and combat consumables for six calendar months of operation (28,000 sorties).

To achieve these materiel objectives, we are requesting about $761 million for Navy missiles, ordnance, ammunition and other combat consumables -- an increase of about $114 million over the amount provided last year.

During the past year, we have taken a hard look at our inventory objectives for air-to-air missiles in the light of the expected threat, peacetime training, and necessary safety factors. As a result, we have revised our previously approved procurement plans for FY 1965 and FY 1966.

For the SIDEWINDER I-C (IRAH) missile, our objective is to keep a production line going until the new PHOENIX missile begins phasing in in FY 1969. To accomplish this objective we plan to level off

production at about 150 missiles per month. At that rate the FY 1963 and FY 1964 procurements can keep the line going through the current fiscal year and the planned FY 1965 procurement of 1,280 missiles can be postponed to FY 1966.

As I mentioned earlier, we have been experiencing development problems with the fire control system for the PHOENIX missile, and we will continue development work in FY 1966 at a cost of $71 million. We now plan to initiate procurement of this missile in FY 1967, in phase with the revised F-111B delivery program.

The procurement of TARTAR, TERRIER and TALOS funded through the current fiscal year will provide an average inventory of over 1-½ "ship fills" for all ships using these missiles. For TALOS, we propose procurement of 94 missiles, the same number as in FY 1965. We have already met our inventory objective for this missile and the 94 per year rate is the most economical to meet our peacetime consumption requirements. We plan to procure 156 TARTAR missiles in FY 1966, 50 fewer than FY 1965. This procurement will satisfy our revised peacetime consumption requirement and build our inventories to 100 percent of the objective. We will also procure 480 TERRIER missiles in FY 1966, more than double this year's buy. The conversion of four DLGs and two CAGs from the beam-riding to the homing version of the missile, which I spoke about earlier, have greatly increased requirements for the latter. As our inventory of the beam-riding version is now in excess of requirements, we are studying the feasibility of conversion.

In addition to the 156 TARTARs and 480 TERRIERs planned for procurement in FY 1966, we plan to procure 100 of the new "standardized" TARTAR/TERRIER missile which I mentioned before. These 100 missiles will be used for test, evaluation and documentation. All future TARTAR and TERRIER procurements will be of the standardized model.

The current year's program for air-to-surface ordnance originally included 3,500 radio-guided BULLPUP B short range supersonic tactical missiles. However, we now propose to cancel this buy since the Navy feels that assets accumulated through FY 1964 and previous procurements are sufficient in view of the substantial procurements now being made of the newer SNAKEYE, WALLEYE and CBU-3.

Last year, we planned to buy in FY 1965 50,000 SNAKEYE I 500 pound and 43,000 SNAKEYE I 250 pound bombs at a cost of about $60 million. Unanticipated price savings in the FY 1964 and FY 1965

buys will now make it possible to buy 73,000 of the 500 pound bombs and 100,000 of the 250 pound bombs in FY 1965 for the same amount of money. For FY 1966, we plan to procure an additional 70,000 each of the 500 pound and 250 pound bombs, 600 WALLEYE television-guided glide bombs and the Navy's first procurement of the CBU-3 anti-tank bomb cluster.

As I have pointed out in prior years, one of our most pressing needs in the ASW area is more modern weapons, particularly torpedoes. A recent study by the Committee on Underseas Warfare of the National Academy of Sciences' Research Council comes to the same conclusion, namely, that larger stocks of modern weapons, especially torpedoes, are now more urgently needed than additional ships and aircraft.

In FY 1966 we propose to buy 3,500 of the new MK-46 light weight ASW torpedoes. The MK-46 is much more effective against high speed, deep submergence nuclear powered submarines than the MK-44 which it is replacing. It can be launched by surface ships (tubes and ASROC) and by aircraft (helicopters and fixed wing). We also plan to buy in FY 1966 the first increment of 60 EX-10 (MK-48) torpedoes for operational evaluation. This is primarily a submarine-launched, wire-guided, long range, high speed, acoustic homing torpedo for use against deep diving, fast, evasive nuclear submarines. It will be much more effective against such targets than the present MK-37.

The 1966 budget includes over $23 million for SUBROC procurement. The SUBROC missile is a long-range underwater-to-underwater solid propellant rocket, armed with a nuclear warhead designed to be fired from standard submarine torpedo tubes. The first SUBROCs will become operational this May. The FY 1966 buy will provide shipfills for 29 nuclear submarines equipped with the SUBROC system.

We have also included funds for increased procurements of sonobuoys -- JULIE, JEZEBEL, etc. We have already achieved 100 percent of the inventory objective for JULIE, a short-range active search and localization system and are now buying for peacetime consumption. Our FY 1966 request for JEZEBEL, a long-range passive search system, will bring stocks to 70 percent of the objective.

We will continue to procure substantial quantities of ASROC, a rocket used to deliver an ASW homing torpedo or a depth charge at long-range against high performance submarines. The FY 1966 increment will bring stocks to 100 percent of the objective. Nearly $47 million is also included for procurement of 186 DASH drone ASW helicopters

which provide a precise, deliberate, long range weapon delivery capability to complement the fast-reaction ASROC.

Recent, more detailed analysis of the total requirements for ship gun fire support -- including land combat, amphibious, anti-aircraft and anti-junk operations -- has caused us to increase our inventory objectives for three inch and five inch ammunition for ship guns. About $31 million has been included in the FY 1966 budget for these rounds compared with $11 million in FY 1965. Procurement of expendable ordnance will be about $125 million above FY 1965.

Electronics procurement will also be increased over the current year's level. Among the items being procured will be three AN/SPS-48 three-dimensional radars (at a cost of $7.1 million), which I mentioned earlier in connection with our plans to modernize a number of guided missile ships. We also propose to continue procurement ($21.6 million) for the Navy Tactical Data System. The Navy will also undertake an extensive program of in-service modification of existing sonars as part of the overall effort to raise ASW capabilities -- at a cost of $20 million in FY 1965 and $33 million in FY 1966. In addition to improvements in AAW and ASW electronics equipment, the Navy has included $57 million in its FY 1966 procurement request for the second increment of its shipboard communications modernization program which I mentioned last year. The program is designed to meet fleet requirements for increased capacity, speed, accuracy and security and is expected to improve overall fleet communications by at least 100 percent. The Navy will also procure five shipboard satellite terminals ($3 million) for use in connection with the Defense Communications Satellite Program.

Nearly $19 million is included in the FY 1965 Navy program for the procurement of automatic data processing equipment and an additional $6.3 million of equipment will be procured in FY 1966. Resultant reductions in rental costs are estimated at $1.6 million in FY 1965 and $5.4 million per year thereafter.

12. Marine Corps Procurement

Our logistics objective for the Marine Corps ground forces is to provide sufficient materiel to equip and sustain four

divisions in combat for six calendar months, a total of 20 division/months of combat consumption of which four division/months are computed at assault rates. For Marine Corps aircraft wings, our objective is to provide sufficient materiel to equip and sustain all four wings in combat for six calendar months with two-thirds of the force engaged -- 44,000 sorties of combat consumption.

A total program of $118.4 million is recommended for Marine Corps procurement in fiscal year 1966, somewhat less than was provided for fiscal year 1965. The accelerated rate of equipment modernization and the buildup in mobilization reserve stocks since FY 1962 permits a lower level of procurement now.

For 7.62 mm. ammunition, $5.0 million is requested. About $27.1 million is proposed for other ammunition and ordnance equipment, primarily for peacetime training.

As I mentioned in connection with Army missile procurement, we have requested Congressional approval to reprogram FY 1965 funds to initiate REDEYE procurement this year in order to get this much needed missile into the hands of troops as soon as possible. For the Marine Corps, we propose to reprogram $10.0 million this year to begin procurement, and we are requesting $8.7 million in our FY 1966 budget to procure an additional 1,505 missiles.

The FY 1966 budget also includes about $25.6 million for the procurement of support vehicles, including 740 two and one-half ton and 600 five-ton trucks. Six million five hundred thousand dollars is also included for the procurement of ten large amphibious assault fuel systems to support both the ground and aviation units of the landing force.

In the electronics category, the Marine Corps would buy, in FY 1966, a variety of radar, radio and other communications equipment including $4.0 million for the new AN/TLG-17 electronic countermeasures set and $6.9 million for the PRC-25 radio.

E. AIR FORCE GENERAL PURPOSE FORCES

Because of the critical importance of tactical airpower to our position in Europe, we have made a major effort during the last four years to expand and modernize the Air Force General Purpose Forces and provide them with the wartime stocks needed for sustained non-nuclear combat. These objectives have been substantially attained. The chief remaining shortcoming is the excessive vulnerability of our forces overseas to conventional attack and we are again proposing a solution to that problem.

1. Tactical Fighter Forces

As shown on Table 13, we are continuing to program towards a tactical fighter force of 24 wings with 1740 aircraft by FY 1969; this is the same size force we planned a year ago. However, I now believe we can prudently plan on a somewhat slower rate of modernization than we envisioned then.

For the past two years we have been tentatively planning for an F-4 force of 14 wings (1020 aircraft). The F-4 has indeed proved to be a fine high performance, versatile aircraft; nevertheless, we do pay a price for this versatility and we should not buy more of these aircraft than we are likely to need. Based on our continuing study of tactical air power requirements and the great increases in capability, both realized in recent years and projected for the future, we now propose to reduce the tentative F-4 force objective by two wings -- to 12 wings (873 aircraft), as shown on Table 13. To maintain the planned force structure at 24 wings in FY 1968 and thereafter, we propose to retain in the active forces F-100s previously scheduled to be transferred to the Air National Guard in FY 1967-70.

The buildup schedule shown on the table envisions a force of ten F-111 wings by FY 1973. However, it is too early to project the ultimate F-111 force level and this objective should be considered tentative.

We still plan to withdraw the F-102 interceptor aircraft deployed overseas, but we are deferring for the time being the phase out of the F-102 squadron (21 UE aircraft) based in the Philippines which was previously scheduled to take place this year. We will keep these aircraft there as long as they are needed in that area, but for planning purposes, we show them phasing out of the force by end FY 1966. We also plan to retain two squadrons of F-102s in the active force through FY 1968 to help compensate for a slower F-4E delivery schedule. By end FY 1969, all F-102s will have been phased out of the active tactical forces.

With respect to Air Force tactical fighter procurement, 637 F-4s have been funded through FY 1964 and 222 will be procured in FY 1965. For FY 1966, we propose to procure 157 F-4s (costing $395 million), 179 less than previously planned for that year; FY 1967 procurement will total 174 aircraft. As I described last year, we are providing some of the later model F-4s with an improved air-to-ground attack capability and some with a low altitude intercept capability as well. This program will ultimately give us a force of six F-4C wings, three F-4D wings with the improved ground attack features and three F-4E wings which will have, in addition, an improved low altitude intercept capability.

The tentative F-111 procurement schedule is shown on Table 14. For FY 1965-67, this schedule remains the same as described last year; after that point production builds up to 16 per month and holds at that level through FY 1970 in accordance with the tentative ten wing objective mentioned earlier. About $679 million has already been provided for the development of this aircraft and $205 million is included in the FY 1966 request. Last year, $146 million was provided for procurement of the first ten aircraft together with certain long lead time components. For FY 1966, $404 million is requested to fund the next 55 aircraft in this program.

2. Tactical Bombers

The two B-57 squadrons (48 UE aircraft), scheduled last year for transfer to the Air National Guard, were instead deployed for temporary use in Viet Nam. We now plan to retain these aircraft in the active force for as long as they are needed in Southeast Asia, tentatively until the end of FY 1966. The range and payload of these aircraft suit them ideally for the Southeast Asia environment.

3. Tactical Reconnaissance Forces

No major changes are presently contemplated in the tactical reconnaissance force levels proposed last year although there have been some slippages and cost increases. At the end of the current fiscal year, the force will consist of 236 aircraft -- RF-101s, RB-66s and the first two squadrons of RF-4Cs. By the end of FY 1970, this force will grow to 348 RF-4C and RF-101 aircraft.

The RF-4C program, however, has continued to encounter delays and cost increases, resulting in a reduction of the FY 1964 procurement program from 108 aircraft planned last year to 89, and a reduction of the FY 1965 program from 144 aircraft to 128. The $236 million

for 96 RF-4Cs requested in the FY 1966 budget would make up those reductions and provide sufficient aircraft to enable us to maintain the full 14 squadron force through FY 1973. The related slippage in the RF-4C delivery schedule would be partially offset by retaining additional RB-66s through FY 1966.

Last year we very tentatively scheduled the first operational units of RF-111s for FY 1969. It now appears that the capability of the reconnaissance force at that time will be large enough to permit deferral of the introduction of this new aircraft. The Air Force has been requested to restudy the entire tactical reconnaissance requirement, including the RF-111. Pending the completion and review of that study, the full development of the RF-111 has been postponed. In the interim,the tactical reconnaissance requirement will be met with six RF-101 and 14 RF-4C squadrons.

4. KB-50 Tankers

Last year we had planned on keeping one squadron of KB-50 tankers in the active force through the end of the current fiscal year. These aircraft, however, have proved very difficult to maintain in a safe operating condition and we decided to phase them out this year. KC-135 aircraft of the Strategic Air Command will be used to meet the tactical requirements for tanker support.

5. Special Air Warfare Forces

The Special Air Warfare Forces at the end of the current fiscal year will number 270 aircraft, an increase of 86 over the previous year. These forces presently include such aircraft as the B-26, the T-28, the A-1E, the C-46, the U-10 and the C-123. We plan to continue a force of approximately this size and composition throughout the program period. However, we still have much to learn about the application of air power to the wide range of counterinsurgency threats we are likely to face over the next five or ten years. We have presently under development a new counterinsurgency aircraft called LARA (light armed reconnaissance aircraft) which will be optimized for lower orders of conflict where the requirement for transport dominates the need for fire power. Against more intensive, better organized opposition, we presently have the A-1E operational in Viet Nam. Although a replacement for this aircraft will probably be needed at some time in the future, until we can be more certain of the type of aircraft needed, we have decided against proposing any completely new development or procurement for this purpose at this time. Instead, we will continue our studies of various presently available aircraft or modification thereof which could be accomplished with modest development, and which could be adapted to this role.

6. Tactical Missiles

At the present time, we have 88 MACE-A (MGM-13A) and 18 MACE-B (MGM-13B) tactical missiles in Germany and 36 MACE-Bs in Okinawa. The MACE-As are deployed in a soft configuration and are extremely vulnerable to surprise attack. As previously described, we intend to build up our quick reacting PERSHING missile capability in Germany very significantly over the next few years. By the end of FY 1966, this build-up will be sufficiently well along to allow us to phase out the MACE As. By FY 1969 we should also be able to phase out the 18 MACE-Bs in Europe. The 36 MACE-Bs in Okinawa will continue to represent a useful capability for as far ahead as we can see and they will be retained.

7. Air National Guard Forces

The Air National Guard general purpose forces at end FY 1965 will consist of about 800 aircraft, including 23 fighter squadrons, 12 reconnaissance squadrons and five squadrons of KC-97 tankers. This force is tentatively planned to hold at about 800 aircraft through end FY 1970.

The presently planned force structure of the Air National Guard differs somewhat from that projected a year ago, principally as a result of the previously discussed changes in the active forces. Thus, the Guard will receive F-100s on a somewhat slower schedule and will retain their F-84s and F-86s somewhat longer to fill the gap. The Guard will also receive 54 F-101s modified for the reconnaissance role thereby permitting the phaseout in FY 1966 of 36 of the RB-57s which have a much more limited capability in this role.

8. Other Air Force Procurement

Our non-nuclear ordnance stocks have been greatly increased over those existing four years ago and the critical shortage of modern munitions, missiles and other war consumables, which until only recently represented a serious constraint on our readiness, has been substantially overcome. Nevertheless, we should continue to build these stocks in an orderly fashion towards the tentative logistics objective we established last year.

Achievement of this objective would provide sufficient modern ordnance for about 63,000 sorties, i.e., the equivalent of 90 days combat consumption for a 1,000 aircraft force computed at a monthly rate of 21 sorties per aircraft. With receipt of the current year's procurement, we will have about 35,000 sorties of modern ordnance in spite of the fact that the total carrying capability of the tactical air forces will have grown substantially with the delivery of newer

aircraft. The FY 1966 program we are recommending would build the capability of the force to over 50,000 sorties. We tentatively plan to reach the 63,000 sortie goal during FY 1969, while concurrently making still another significant addition to the total carrying capacity of the force. In fact, the FY 1970 force will be able to carry more than five times the bomb load of the FY 1961 force.

In addition to the 90-day stock objective for the most modern ordnance, we also plan to buy enough fuel tanks and pylons to round out a balanced inventory of older types of ordnance for still another 90 days of combat.

We have included in our FY 1966 budget request a total of $328 million for tactical non-nuclear ordnance (including $102 million for Special Air Warfare Forces), compared with $234 million for 1965, (including $76 million for Special Air Warfare Forces). Only about $100 million worth was procured in 1961. Included in the FY 1966 request is another increment of the anti-radar missile SHRIKE. By the end of FY 1966, the Air Force will have about 39 percent of the inventory objective of this missile.

No further procurement of BULLPUP-B missiles is contemplated after the current fiscal year since we will begin replacing this radio-controlled, air-to-surface missile with the TV-controlled WALLEYE glide bomb beginning in FY 1968 with deliveries from the initial procurement in FY 1966. However, in order to benefit fully from the advantageous prices obtained in the Navy's multi-year contract for BULLPUP-B, and to ensure an adequate inventory during the interval before WALLEYE is available in large quantity at the end of this decade, we propose to raise the current year's procurement of BULLPUP-B from 2,200 to 3,990 missiles.

Recent air-to-surface ordnance studies have revealed that Navy and Air Force stocks of BULLPUP-A missiles presently exceed our likely needs. Therefore, rather than procure complete BULLPUP trainer missiles for the Navy and Air Force, we will buy only the trainer inert center section for use with these excess BULLPUP-As. This will produce a net saving of $8.2 million in the current fiscal year. For FY 1966, 3,000 inert sections for these missiles will be bought at a cost of $1.2 million (compared with a cost of $9.4 million for 3,325 complete training missiles).

The Air Force will also buy nearly 85,000 SNAKEYE 500 pound bombs in FY 1966 at a cost of $41 million, thereby meeting their FY 1966 90-day inventory objective for this item.

A recomputation of the Air Force and Navy requirement for the SPARROW III air-to-air missile makes it possible to terminate Air Force procurement with the FY 1964 buy. With transfers from excess Navy stocks of SPARROW III, the Air Force will have its full inventory of these missiles.

9. Theater Air Base Vulnerability

As I noted at the beginning of this discussion of the Air Force General Purpose Forces our most urgent need in this area is to reduce the vulnerability on the ground of our tactical aircraft deployed on bases overseas. Protection of these aircraft against nuclear attack would be very difficult indeed, but several measures in combination could make a major contribution to their protection against non-nuclear attack.

We have twice asked the Congress to authorize construction of shelters to protect aircraft and other critical components of combat capability but each time our request has been denied. I have again reviewed this question in the light of other alternatives and I am more convinced than previously that a comprehensive program of defensive measures against such attack offers the best solution.

With respect to the aircraft themselves, an earth-covered, steel shelter equipped with an armor-plate door has proved fully effective against strafing, napalm and fragmentation weapons and against near misses by all other types of non-nuclear weapons. These shelters would cost only about $110,000 each, a very small fraction (five to seven percent) of the value of the aircraft they protect. We have identified a hard core requirement for 776 shelters for the Air Force, most of which would be in Europe. The $22 million requested for the Air Force for FY 1966 would provide 200 shelters to meet the highest priority requirements. In addition, we are requesting funds for 40 Marine Corps aircraft shelters.

Our analyses also underscore the present vulnerability of our deployed tactical air power to enemy attacks on the runways of our forward air bases, which could effectively "neutralize" our aircraft at a critical time without actually having to destroy them. To meet this problem, the FY 1966 program provides about $5 million for the necessary equipment and material to create a "four-hour" rapid runway repair capability at six bases in Europe and two in the Pacific. We also propose to reprogram FY 1965 funds to provide this capability at two airfields in Viet Nam and the FY 1966 Marine Corps request would add the capability to still another airfield in that country.

These, of course, are only two of the most obvious measures which we can and should take immediately. We also propose to camouflage paint 750 tactical aircraft and to test such other vulnerability reduction measures as airbase camouflage. Of course, the problem of actively defending the airbases is a part of the larger problem of forward air defense for all the forces which I discussed earlier. Most active defense measures which help to solve this broader problem will also contribute to the defense of our deployed tactical aircraft. In view of the massive investments we are making in tactical aircraft procurement, now running at a rate of about $1 billion per year, the modest outlays these steps entail is essential insurance.

F. TACTICAL EXERCISES

Tactical exercises for elements of the General Purpose Forces, as I noted last year, serve many important objectives:

(1) They enable the units involved to maintain a high state of combat readiness by frequent practice of their skills.

(2) They provide an opportunity for elements of one Service to work closely with other elements of its own or other Services or those of our Allies upon whom they would have to depend in wartime.

(3) They enable Defense planners to test new military concepts and to discard those which prove bad, and give us confidence in those which prove successful.

(4) They show the world, including our potential enemies, that our war capability is both great and real.

Several large scale exercises directed by the Joint Chiefs of Staff were conducted during the past year. For example, last fall, STEEL PIKE I, the largest peacetime amphibious operation ever held, displayed our ability to move quickly a fully equipped Marine Expeditionary Force from the United States to a distant shore, have it "marry up" with units of a friendly country and then conduct a sophisticated assault operation. Participating in STEEL PIKE were ships of the U. S. Navy, the Military Sea Transportation Service, the Spanish Navy and the U. S. Merchant Marine, the first time the last had ever participated in a major Atlantic exercise. Over 60,000 men and 80 ships took part in this amphibious assault at Huelva, Spain.

[redacted]

For FY 1966, we again plan an extensive program of such exercises at an estimated cost of $130.9 million, compared with about $110 million estimated for the current year.

Last July, I requested the Joint Chiefs of Staff to establish a joint task force to conduct tests of the low altitude capabilities of our tactical and strategic aircraft and of our anti-air defensive systems. Joint Task Force Two has been formed and is now being manned. It will have a strength of 158 military and 102 civilians. Fourteen civilian spaces are allocated to DASA for support of the JTF-2 headquarters which will be located at Sandia Base, New Mexico. Starting early in 1965 and continuing thereafter, JTF-2 will conduct comprehensive tests of existing and new tactical aircraft, weapons and ordnance, including penetration and attack at low level against all forms of air defense weapons. About $6 million has been included in the 1966 budget for the support of this effort.

All of the Services, of course, will also conduct extensive programs of unit exercises not involving other Service participation, or combined exercises which fall outside of the definition of the joint mobility exercises directed by the Joint Chiefs of Staff. The Navy and Marine Corps have scheduled a full program of training and readiness exercises. As in recent years, these will emphasize amphibious, ASW, mine warfare, strike, and anti-air warfare capabilities. Finally, we will also participate in a large number of joint exercises with elements of allied military establishments, including those of NATO, SEATO and Latin American countries.

G. FINANCIAL SUMMARY

The General Purpose Forces Program, which I have outlined above, will require total obligational authority of $19.0 billion in FY 1966. A comparison with prior years is shown below:

($ Billions, Fiscal Year)

	1962 Original	1962 Final	1963 Actual	1964 Actual	1965 Estimated	1966 Prpposed
Total Obligational Authority	14.5	17.4	17.6	17.7	18.1	19.0

[redacted]

IV. AIRLIFT AND SEALIFT FORCES

I believe that it is apparent from my discussion of the limited war problem and our General Purpose Force requirements that an adequate airlift and sealift capability is essential to our global strategy in the collective defense of the Free World. Included in the airlift forces which I will discuss in this section of the statement are the MATS transports, the Air Force Tactical Air Command troop carrier aircraft, and the transport aircraft in the Air Force reserve components. The sealift forces include the troop ships, cargo ships and tankers operated by the Military Sea Transportation Service and the "Forward Mobile Depot" ships.

A. THE REQUIREMENT

We have made further progress during the last year in clarifying our requirements for airlift and sealift in context with our limited war strategy and the requirements for General Purpose Forces. Generally speaking, there are two ways in which United States military power can be brought to bear in limited war situations: either we can station large numbers of men and quantities of equipment and supplies overseas near all potential trouble spots, or we can maintain a much smaller force in a central reserve in the United States and deploy it rapidly where needed.

Both approaches have their advantages and disadvantages. If large forces are deployed in forward areas they can indeed respond quickly to a developing situation and the requirement for "long haul" transportation is reduced. The drawbacks to this approach are that: it requires very large numbers of men, great quantities of equipment and long periods of overseas service; it involves all of the uncertainties and difficulties associated with foreign bases -- base rights and status of forces agreements; it considerably increases defense expenditures abroad; and it reduces the flexibility of our military posture.

On the other hand, a mobile "fire brigade" reserve, centrally located in the United States and ready for quick deployment to any threatened area in the world is, basically, a more economical and flexible use of our military forces. It requires fewer men and less equipment to do the job, and most of the problems involved in stationing large U.S. forces abroad during peacetime are avoided. However, to move rapidly overseas from the continental United States the kinds of forces required with all of their heavy equipment, and then to support them, requires, by past standards, an enormous transport capability. Furthermore, as I indicated in the previous section of this statement, the first few weeks of a limited war conflict are

[redacted]

usually the most critical, and our ability to move sizeable forces over great distances (e.g., Southeast Asia) within that length of time could make the difference between prompt termination of an agression and a long, drawn out conflict.

The magnitude of this problem can be illustrated from the fact that a force of about five divisions, 30 tactical air squadrons and support units (the size force which our studies suggest we need to be able to place on the battle line within the first 30 days of conflict in Southeast Asia), weighs out at about 450,000 tons, and needs resupply as it engages in combat -- and Southeast Asia is about 8,000 miles from the west coast of the United States. Not all of this force would have to be moved from the continental United States. Part of it is already deployed in the Far East or Hawaii and some additional equipment and supplies are prepositioned in the area, both on land and in floating depot ships. Taking account of these resources, we calculate that something over 1-3/4 billion ton/miles of airlift would be required. This is the equivalent of moving 200,000 tons of men, equipment and supplies by air from the west coast of the United States during the first 30 days.

Four years ago, when I appeared before this Committee in support of the amendments to the FY 1962 Defense program and budget, our 30-day airlift capacity to Southeast Asia totaled less than 15,000 tons. Since that time, we have greatly increased our capability with the delivery of the C-130s and C-141s. But it is clear that to meet the requirements for rapid movement of our forces, we need a new, very large capacity airlift aircraft and new "fast deployment" ships.

The airlift program I presented last year would, by FY 1970, give us a 30-day lift to Southeast Asia of about 73,000 tons. With few exceptions, the kinds of ships which we could expect to be available for a Pacific sealift in that time period would not make much of a contribution in the first 30 days, although their contribution thereafter would be very large indeed. For sealift, we depend very heavily on the Merchant Marine and it simply takes time to assemble the ships and load them. If we want a capability to deploy a five division force in 30 days to an area such as Southeast Asia, we need both additional airlift and immediately available fast sealift.

Last year, I informed the Committee that we were studying the development of a new large transport aircraft, the CX-HLS (now called the C-5A), which would be able to carry large and bulky pieces of Army equipment, not otherwise movable by air, and which would be very economical to operate at full load. We were thinking then of a large aircraft in the 600,000 lb. class (the C-141's maximum takeoff weight is about 316,000 lbs.), with about 2,300 sq.ft. of loadable floor area

[redacted]

[redacted]

using six of the C-141-type engines. We now believe that we can design an even more efficient and economical transport in the 725,000 lb. class with 2,700 to 3,000 sq.ft. of loadable area, using four newly developed engines. This aircraft would be 15 percent cheaper per ton/mile to operate than the model I described last year (about 40 percent cheaper per ton delivered than the C-141 and about 70 percent cheaper than the C-130) and would have the same rapid loading and unloading drive-through features plus the ability to operate from short, low strength airfields. This last feature is of considerable importance. Our studies during the last year have convinced us that unless troops and equipment can be routinely delivered well forward in the theatre of operations, many of the advantages of airlift would be lost.

The dimensions of the C-5A cargo compartment have been very carefully worked out in relation to the typical kind of load it would have to carry in a deployment of large Army forces from the continental U.S. For example, the fuselage width would be about 17 feet, making possible the loading of two columns of Army vehicles and cargo pallets side by side compared with one column in the case of the C-141. This feature would permit a much more efficient utilization of available floor area. The C-141, when used for this kind of load, can carry only about 50 to 55 percent of its maximum structural capacity, compared with 90 percent in the case of the C-5A. Because of its better balance between available floor area and maximum structural load carrying capacity, as well as its other operational efficiencies, one C-5A should be able to do the work of about three to five C-141s in deploying typical Army units.

Even though the C-5A would be very expensive to acquire -- $2.2 billion (including development and procurement) for a force of 48 operational aircraft, or $3.2 billion for a force of 96 aircraft -- on a ten year systems cost basis (i.e., including the cost of development, procurement and ten years of operation), the C-5A would be a much better buy than additional C-141s.

Our calculations show that it would be desirable to reduce the tentatively planned 20 squadron (320 aircraft) C-141 force by seven squadrons (112 aircraft) and substitute 1-1/2 squadrons (24 aircraft) of C-5As. The 1-1/2 squadrons of C-5As would provide the same capability as seven to eight squadrons of C-141s. Further, it is tentatively estimated that the ten year systems cost would be the same, even including the high cost of developing and procuring the new aircraft. Beyond the "break even" point, the C-5A cost per ton delivered would be progressively less than that of the C-141, as shown on the following table:

[redacted]

Tons Delivered in 30 Days to SE Asia	Number of Aircraft C-141	Number of Aircraft C-5A	Tentative Estimates of 10-Year Systems Cost Per Ton Deliv. (000)[a] C-141	Tentative Estimates of 10-Year Systems Cost Per Ton Deliv. (000)[a] C-5A
5,000	29	6	$108	$223
10,000	58	12	108	147
15,000	86	18	106	119
20,000	115	24	106	102
30,000	172	36	105	84
40,000	229	48	104	73
50,000	286	60	104	69

I have selected the figure of 13 squadrons of C-141s as the point of departure for this calculation for several reasons:

(1) The C-141 is already in production. A total of 145 aircraft have been placed on order through FY 1965 funding.

(2) Assuming we can start full scale development of the C-5A by about July 1, 1965, the first operational aircraft would not be available until late in FY 1969 and possibly not until the end of calendar year 1969. We should not halt the buildup of our airlift between now and then.

(3) A mixed force of C-141s and C-5As would be desirable in any event since a variety of vehicles with different capacities more nearly produce a uniform matching of capabilities and requirements. The C-141 could carry the denser cargo, thus making fuller use of its payload potential, while the C-5A could carry the bulky cargo. Furthermore, there will always be trips which will not require the very large capacity of a C-5A.

For all of these reasons, a force of 13 squadrons (208 aircraft) of C-141s appears to be the best compromise.

The development and deployment of a force of C-5A aircraft would go far in solving the problem of deploying large forces from the continental U.S. in the first 30 days of a limited war. The balance of the requirement could and should be met by a modern, fast and efficient sealift, immediately responsive to Defense Department direction.

a/ Including full cost of developing the C-5A

Last year I informed the Committee that we were studying a new type of roll-on/roll-off ship which promised perhaps twice the capacity, greater speed and lower procurement and operating costs than the Comet-type ships we now have in the program. These studies have progressed to a point where we believe a fast deployment logistics ship of about 30,000 tons displacement, with about 100,000 to 150,000 sq.ft. of clear deck area for a cargo of 3,000-4,000 net short tons of vehicles, a high speed of 20-25 knots and roll-on/roll-off features can be constructed at a cost of about $32 million each.

These ships would be powered by a new propulsion system consisting of a marine version of an aircraft-type gas turbine engine coupled to an electric generator/motor. This system promises special benefits to roll-on/roll-off ships including a reduction in weight and space requirements, less "down-time" for maintenance and better reliability as well as significant savings in overall system costs. The use of these gas turbine engines in ships as large as these fast deployment logistics ships will represent a real advance in marine engineering.

Such a ship would be particularly useful for carrying, without disassembly, heavy wheeled and tracked vehicles as well as helicopters. Its relatively high speed would permit it to deliver cargo within the critical first 30 days, even from the continental U.S. to Southeast Asia. We propose, however, to use these ships as Forward Mobile Depots stationed close to potential trouble areas and in no event for carrying peacetime cargoes. Their roll-on/roll-off capability would greatly shorten the "turn around" time, thereby increasing the effective port capacity, a feature which could be of great importance in underdeveloped areas where port capacity is frequently limited. And, it would have some administrative "over-the-beach" landing capability for emergency use. The converted Victory-class Forward Mobile Depot ships carry only one-third as much, are only one-half to two-thirds as fast, have no over-the-beach capability and take many times longer to load and unload.

Although the ultimate mix of ships and aircraft has yet to be determined, the addition of a number of these fast deployment logistic ships and three to six squadrons of C-5A aircraft to the airlift-sealift forces should give us the capability to deploy, within 30 days, a five division force to Southeast Asia or a ten division force to Europe (plus the personnel of the two division sets of equipment in Europe). Such a capability, which could be achieved by the early 1970s, would greatly increase the operational flexibility of our forces and reduce our present heavy reliance on overseas deployments. This does not necessarily mean that we should or will reduce our overseas deployments in the 1970s, but we would then have that choice if it should become feasible and desirable to do so. Accordingly, we

propose to move forward both with the C-5A and the new fast deployment logistic ship programs.

B. AIRLIFT

Last year I told this Committee that we planned to undertake a number of studies to determine the characteristics of the CX, and that to finance these studies and initiate design competition (if full scale development were found warranted), we proposed to use $10 million of FY 1964 "Emergency Funds" plus $7 million included in our FY 1965 budget request for that purpose. We now propose to reprogram an additional $35 million from available FY 1965 funds to complete a very thorough and highly competitive project definition phase. (A reprograming request in this amount has been forwarded to the appropriate Committees of the Congress.) Another $157 million has been included in the FY 1966 budget for full scale development. The pacing components are the new power plant and the "high flotation" landing gear.

While we have not yet determined the ultimate number of squadrons of C-5A to be procured, there appears to be a rock-bottom 30-day airlift requirement for at least 90,000 tons to Southeast Asia. Accordingly, we have tentatively programed a force of three squadrons of C-5A (48 UE aircraft) and the procurement of 58 aircraft. The first procurement (three aircraft) would be made in FY 1967, with the balance of 55 aircraft to be funded in FY 1968-1969.

To complete the procurement of 13 squadrons of C-141s, 84 aircraft will be procured in FY 1966 at a cost of $400 million and the final quantity of 31 aircraft will be bought in FY 1967. This is a reduction of 126 aircraft from the program presented last year and represents a saving of about three-quarters of a billion dollars.

Shown on Table 15 are the FY 1966-1970 airlift forces we now propose to support. The first C-5A squadron is planned to become operational by the close of FY 1969 and the second squadron by FY 1970. As these new aircraft become available, the old C-133s and C-124s will be phased out of the force. Both of these large transports have seen long and heavy service and are coming to the end of their operational lives. The C-133 is already difficult to maintain because of age and structural fatigue problems and we are holding them in the force only to meet the "outsize" airlift requirement.

During the past year we have transferred two additional C-124 squadrons (36 UE aircraft) to the regular airlift force from the Air Force Logistics Command where they were used to transport nuclear weapons. Although they will continue to be used in this role, their integration into MATS provides added flexibility in the management of the airlift inventory and broadens the capability to transport these weapons. Some C-124s will be kept in the forces for two years longer than previously planned. As shown on Table 15, all but one squadron of C-124s (16 aircraft) will be phased out by the end of FY 1970. If the activation schedule for the new heavy transports should slip, the C-124s could be held in the force somewhat longer.

No change has been made in the C-130 forces. The drop from FY 1968 to FY 1969 represents anticipated attrition. In FY 1970, however, we will start phasing some of these aircraft out of the active forces into the airlift reserve forces. All of the C-118s will be phased out of the active forces and all of the C-123s will be transferred to the Special Forces during the current fiscal year, as previously planned. All of the C-135s will be phased out by end FY 1968 on essentially the same schedule as presented here last year.

An intensive review of the airlift units in the Air Force reserve components has convinced us that the contribution of many of the aircraft to our overall airlift capability is not worth their operating costs, even though those costs are considerably lower than in the active forces. As shown on Table 15, almost 600 of the approximately 870 airlift aircraft now being operated by the Air National Guard and Air Force Reserve are the small, very old C-119s. This aircraft, because of its limited range and carrying capacity, has very little utility except perhaps as a troop carrier in the Western Hemisphere. Since we will complete the buildup of the C-130s in the active forces this fiscal year and the C-141s during the next three fiscal years, I believe that we should phase the C-119s out of the reserve components on a faster schedule than previously planned. Last year we had planned to phase out the first five squadrons (80 aircraft) in FY 1966, phasing down to 272 aircraft by FY 1969. We now propose to phase out nine squadrons in FY 1966 and all of the squadrons by end FY 1969.

As I noted earlier, all of the C-123s in the active forces are being transferred to the Special Forces. We now propose to do the same with the 48 C-123s in the Air Force Reserve over a three year period as shown on Table 15.

Now that we have decided to move forward with the C-5A, I believe we can also plan on reducing the number of C-124s in the Air Force Reserve. Last year we had planned to provide the Air Force

Reserve with 300 C-124s by FY 1969. We now propose to build up the force to 152 aircraft by end FY 1967 and hold at that level through FY 1969. In FY 1970, when the first 24 C-130s are phased out of the active force into the Air Force Reserve, the number of C-124s will be reduced to 128, providing a total of 152 aircraft.

With respect to the Air National Guard, we now plan to phase out all of the high cost C-121s by end FY 1968 and all of the C-97s by end FY 1969, replacing them with 128 C-124s. Thus, by end FY 1970, the Air Force reserve components will be operating a total of 280 airlift aircraft -- 256 C-124s and 24 C-130s -- compared with a total of about 872 aircraft at the end of the current fiscal year. The elimination of these obsolescent aircraft from the Air Force reserve components will save about $60 million per year by FY 1970 and a cumulative total of at least $200 million over the FY 1966-70 period. We can buy much more airlift by applying these savings against the cost of the C-5A.

As shown on Table 15, the revised program will provide a 30-day airlift to Southeast Asia of almost 79,000 tons by end FY 1970, and almost 90,000 tons by end FY 1971. This compares with about 73,000 tons by end FY 1970 provided by the program presented last year. In terms of a 30-day lift to Europe, the revised program would provide 150,000 tons by end FY 1970 and about 167,000 tons by end FY 1971 compared with 140,000 tons by end FY 1969 in the previous program.

C. SEALIFT

The major change in the sealift program is the decision to go ahead with the construction of the new class of fast deployment logistics ships. Last year we had included in our FY 1965 request $19 million for the construction of a fourth roll-on/roll-off ship of the COMET II-class and tentatively programed an additional ship in FY 1966 and two more in FY 1967 -- although I noted at the time that if our analyses bore out the advantages of the new type, we would propose a changeover to the new design and possibly a change in the total force objective. The Congress had already authorized three roll-on/roll-off ships: the TAURUS, an early model conversion to a quasi-roll-on/roll-off ship; the COMET I, the first of the true roll-on/roll-off ships; and the COMET II, a somewhat improved version of the COMET I. The first two ships are already operational; the third will become operational in FY 1966. The $19 million request for the FY 1965 COMET II-type was not approved by the Congress.

Having completed our analyses, we now propose to start four of the new type fast deployment logistics ships in FY 1966 and have

included $131.8 million in our budget request for this purpose. In addition, we have tentatively programed two more of these ships in each year, FY 1967-1970. As shown on Table 15, the first four of these ships would become operational in FY 1969, and the next two in FY 1970. These fast deployment ships would be used as forward mobile depots and not for peacetime transport.

Three Victory-class cargo ships were converted to forward mobile depots in FY 1963 and are now deployed around Subic Bay in the Philippines. Since the new force of fast deployment ships would not be available for some years, we propose to convert another 14 Victory's to forward mobile depots in FY 1966 and $29.6 million has been included in our budget request for that purpose. As shown on Table 15, we would have all 17 forward mobile depot ships in the force by end FY 1967. These 17 ships could carry sufficient equipment and supplies for about a division. As the planned force of fast deployment logistics ships is completed sometime in the 1970s, all or some of these converted forward mobile depot ships could be retired to inactive status. (The cost of conversion is only about $2.1 million each.)

The program for general purpose cargo ships is essentially the same as that presented here last year except that we will continue to phase the force down to eight ships by end FY 1970. In the light of the decision to build a force of fast deployment ships, there is presently no need either to modernize or to replace these general purpose cargo ships.

We have also decided to start phasing down the force of special purpose cargo ships from the present level of 43 to 38 by end FY 1970, as shown on Table 15. These are mostly World War II LSTs operating in the Far East. We will, however, modernize this force somewhat by substituting newer LSTs which will be released from the amphibious forces over the next few years as new amphibious ships become available from new construction.

Although the tanker force will remain at 25 throughout the program period, we propose to increase the modernization program. These MSTS tankers are much smaller than their commercial counterparts and hence are uniquely suited to operations in the shallow ports and estuaries characteristic of many areas of the world. Nineteen of the 25 tankers were constructed during World War II. Last year we had planned to rehabilitate and lengthen four of these tankers, two in FY 1965 and two in FY 1966, and funds were requested and appropriated for the 1965 program. We still propose to convert two tankers in FY 1966 and, in addition, we have now programed two more in each year, FY 1967-70, making a total of 12. The remaining seven of the 19 tankers built

during World War II may be modernized in subsequent years.

Our increasing dependence on airlift will undoubtedly require greater POL storage capacity in forward areas and increase requirements for tanker resupply. This will be particularly true in the Pacific area and at the enroute island bases. As I told the Committee last year, I directed that a study be made of our world-wide requirements for POL storage and tanker resupply in relation to our anticipated deployment requirements. This study has been completed. It is clear that by 1968 we will need additional POL storage capacity at a number of key enroute bases. To bring all of the major bases up to a desired 30-day on-hand level will require a five-year program of construction and improvement costing approximately $75 million. I have included $11 million in our FY 1966 military construction budget request for the first increment of this program.

Last year we had tentatively planned to phase out all 16 troop ships in FY 1966 inasmuch as seaborne passenger traffic is declining rapidly in favor of air travel. The Joint Chiefs of Staff, however, urged that these ships be held available in one form or another for quick emergency use. I have accepted their recommendation and all 16 ships will be kept in the program through FY 1970. The exact number to be kept on active status versus ready reserve status will be recommended annually by the Secretary of the Navy and approved by me. These ready reserve ships will be manned by a nucleus Civil Service crew, the exact size of which will be determined by additional study. We believe that eight of the 16 troop ships can be placed on ready reserve status by the end of FY 1966.

In this connection, we are requesting relief from the requirement (Section 532 of the Defense Appropriation Act for 1965) that $7.5 million of the funds appropriated are to be available only for the procurement of commercial passenger sea transportation service. Study shows that if all Defense Department passengers except those who cannot or do not want to fly were shifted to air transportation, the Government would save about $3.5 million. In light of this fact, I reduced the Services' budget requests by that amount and urge the Congress to eliminate this costly provision.

D. FINANCIAL SUMMARY

The Airlift and Sealift Forces I have outlined will require Total Obligational Authority of $1.6 billion in FY 1966. A comparison with prior years is shown below:

($ Billions, Fiscal Years)

	1962 Orig.	1962 Final	1963 Actual	1964 Actual	1965 Est.	1966 Proposed
Total Obligational Authority	.9	1.2	1.4	1.3	1.5	1.6

[redacted]

V. RESERVE AND NATIONAL GUARD FORCES

A. GENERAL

In the preceding sections of this statement, I have discussed most of the important issues involved in the Reserve and National Guard Program. In this section I would like to summarize the numbers of men on paid status and the costs of the program. The numbers of Reserve and National Guard personnel in regular paid training for the years FY 1961 through FY 1966 are shown on Table 4.

As shown at the bottom of the Table, we have budgeted for 967,400 Reserve and National Guard personnel on paid status at end FY 1966. This compares with 1,047,500 at end FY 1964 and 1,028,400 at end FY 1965. Of these numbers, 869,300 personnel would be in regular paid drill training status at the end of FY 1966, compared with 950,300 at end FY 1965 and 953,200 at end FY 1964.

B. ARMY RESERVE COMPONENTS

As previously described, we estimate the realignment of the Army's reserve components, insofar as it affects paid drill training spaces, would not be fully completed by end FY 1966. Thus, as a result of temporary over-strengths, we expect that the end FY 1966 paid drill training strength would total 575,000 (all in the National Guard). Paid drill training strength would eventually decline to about 550,000 (compared to the previously planned strength of 700,000) as the realignment is completed. The number of six month trainees in FY 1966 is estimated at 75,000, down 60,000 from the current year, reflecting our effort to absorb the effects of the realignment. The budget also provides two weeks annual active duty training for 78,400 reservists compared with about 58,400 this year.

C. NAVAL RESERVE

For the Naval Reserve, we have programed a total of 126,000 men on paid drill training status for end FY 1966, the same number estimated for the end of the current fiscal year. The comparable FY 1964 strength was 123,300. In addition, about 9,100 Naval Reserve officers and enlisted men are expected to perform active duty training in FY 1966, the same as in the current year.

D. MARINE CORPS RESERVE

The FY 1966 budget provides regular paid drill training for 45,500 Marine Corps reservists, the same number programed for 1965. In addition, 3,100 reservists will be provided two weeks or thirty days training, the same as the current year's program.

[redacted]

E. AIR FORCE RESERVE

For the Air Force Reserve, the FY 1966 budget provides for a total of 45,800 on paid drill training status as compared with 48,800 in the current year and 60,800 in FY 1964. An additional 7,500 reservists will receive two weeks active duty training, the same as planned for this year.

The decline in Air Force Reserve strength stems principally from the decision to discontinue the Air Force Reserve Recovery Program by the end of this coming March. During an intensive review of this program in 1964, we identified 40 recovery groups and 91 recovery squadrons located at airports where we no longer had any emergency recovery requirement. These units, involving approximately 8,600 men were phased out during June, July and August of last year. Subsequently, we again reviewed the potential of this program to provide useful pre-attack dispersion and post-attack reconstitution capabilities for the major Air Force commands. The Strategic Air Command and MATS, we found, could probably do the job themselves without relying on special purpose Reserve recovery units. The Tactical Air Command would be dispersed overseas in most emergency situations. More than four-fifths of the recovery program was designed to support those three combat commands. The supporting commands would probably not be capable of functioning after a strategic nuclear exchange in any event since it would be very difficult to re-establish command control and communications with surviving Air Force units and with higher authority. Moreover, it seems clear that to be even partially effective in this role, the reserve would need far more training and equipment than the resultant capability would be worth. The $20 million that such an effort would cost annually can be better applied elsewhere.

The decision to discontinue the remainder of the recovery program resulted in a reduction of 10,000 additional paid drill spaces, or a total of 18,600 spaces saved in this program. However, in order to improve the readiness of the airlift elements of the Air Force Reserve, a higher manning level has been authorized and this has required about 7,000 additional spaces. The net effect of all the changes in 1965 is a reduction of 12,000 spaces.

The net decline of 3,000 paid drill personnel in 1966 is related to the changes in the airlift force structure described previously.

F. AIR NATIONAL GUARD

The budget provides paid drill training for 77,000 Air National Guard personnel, about 2,000 more than the number receiving paid drill training at the end of the current year. This increase is entirely related to the higher manning levels we propose for the airlift elements of the Air Guard in order to raise their readiness posture.

G. OFFICERS EDUCATION PROGRAM (ROTC)

"The Reserve Officers Training Corps Vitalization Act of 1964," signed by the President last October, provided for several important changes in the officers education program. In addition to the traditional four-year Senior (college) ROTC program, a new two-year program was added. Moreover, each of the Military Departments was authorized to award 5,500 scholarships to students enrolled in the four-year program. All students in the advanced course of the non-scholarship program were authorized retainer pay of $40 to $50 per month for ten months of a school year instead of the previous $27 per month. I have authorized the Army and Air Force to initiate their program with 1,000 scholarships each in FY 1966. (The Navy has had a similar program since 1947). I have also authorized the Services to grant $40 per month retainer pay to all non-scholarship students in the advanced course. The total cost of the Senior ROTC program in FY 1966 is estimated at $97.4 million, an increase of $4.2 million over FY 1965.

The Act also provides for the expansion of the Junior (high school) ROTC to 1,200 secondary schools, at a rate of 200 schools per year with all Services participating in the program beginning in calendar year 1966. Presently, there are 253 Junior ROTC schools (all sponsored by the Army) with about 57,000 students. These schools have conducted Junior ROTC for a number of years and we expect they will continue to participate under the new law. The cost of the Junior ROTC program in FY 1966 is estimated at approximately $5 million; under the new program, the cost could ultimately rise to $25 million by FY 1971. In addition, there are 126 National Defense Cadet Corps schools with about 28,000 students enrolled in a program which will cost about $100,000 in FY 1966.

At the direction of the President, we are presently conducting a comprehensive study of the Junior ROTC program to determine how it can be made more responsive to our military requirements. This study should be ready in time for the President to promulgate the necessary regulations for the new program before January 1, 1966.

An estimated 140,000 students are expected to participate in the Army Senior ROTC during FY 1966, a decrease of about 23,000 compared with the current year. Under the new law, colleges may elect a two-year program in lieu of a four-year program, or conduct both. With the students' increased latitude in choice, we estimate that about one-third of the potential officer candidates will delay entering the program until their junior year. It is estimated that production of commissioned officers in FY 1966 will be 10,350, a decrease of about 1,300, partly because of the questions raised about the continuation of the draft last year when the 1966 class was applying for the advanced course.

In FY 1966, the Navy's regular ROTC program will remain at the present authorized level of about 5,300; the contract program is estimated at 4,200, a decrease of about 200 students. The decrease in the latter program stems from the small entering class in September 1962 when there was a lack of draft stimulus and an increase in the minimum active duty tour from two years to three. The regular and contract programs should produce about 1,300 and 200 officers, respectively, in FY 1966. Strength of the Reserve Officer Candidate Program of the Navy and Marine Corps is expected to increase from about 2,900 in FY 1965 to about 3,600 in FY 1966, with an estimated 1,300 officers produced in FY 1965 and 800 in FY 1966.

Participation in the Air Force Senior ROTC program in FY 1966 is estimated at 82,000 with a production of 5,000 commissioned officers -- slightly below the levels of the present year.

H. FINANCIAL SUMMARY

The Reserve and National Guard Forces I have outlined will require Total Obligational Authority of $2.0 billion for FY 1966. A comparison with prior years is shown below:

($ Billions, Fiscal Year)

	1962 Original	1962 Final	1963 Actual	1964 Actual	1965 Est.	1966 Proposed
Total Obligational Authority	1.7	1.8	1.8	2.0	2.1	2.0

VI. RESEARCH AND DEVELOPMENT

Included in this major program are all the research and development efforts not directly identified with elements of other programs. In my discussion of the mission-oriented programs -- Strategic Offensive and Defensive Forces, General Purpose Forces, etc. -- I have already discussed a number of the R&D projects. At this point I would like to round out in a more systematic fashion the contents of the R&D program. But, before I do so, I would like to discuss some of the basic problems involved in this crucial area of the Defense effort.

First, we should keep in mind that the life span of a new weapon, covering the period from the development of a new technology through the last delivery of the resulting product to the Armed Forces, is usually at least ten to 15 years, even for such relatively simple items as a rifle or a torpedo. It is therefore idle to argue about which Administration is entitled to credit for this or that particular weapon system. Let it be said once and for all that the weapon systems entering our forces today are to a great extent based on technology created during the prior Administration and even the Administration before that. This situation simply reflects the nature of scientific advancement. Each generation builds on the knowledge accumulated by its predecessors. Without the work done on nuclear weapons during the Roosevelt Administration and developments undertaken on ballistic missiles during the Truman and Eisenhower Administrations, there would be no effective intercontinental ballistic missile force today. The real issue which concerns us now is: given our present scientific and technical potentials, and the basic characteristics of the national defense problem now and over the next decade, are we making effective use of existing opportunities to strengthen our ability to defend the Nation in the years ahead?

One measure of our performance, but only one measure, is the total number of dollars spent for research and development. Here we should not only focus on the amount the Defense Department, itself, is spending, but on the total being spent by the Government as a whole in areas pertinent to national security. Because of the vast scope of its activities on the land, on and under the seas, in the air, and in space -- and the high demands it places on its weapons and equipment, the Defense Department is vitally interested in virtually every field of scientific and technical knowledge.

This does not mean that the Defense Department itself must engage directly in every sphere either of research or of development. We can and do use the work of other Government departments and agencies. For

example, in the development of nuclear devices, we look to the Atomic Energy Commission. In the broad area of space technology, we are heavily dependent on the National Aeronautics and Space Administration. In meteorology, we share the field with the Department of Commerce, the National Science Foundation, as well as the AEC and NASA. In oceanography, we work in partnership with the Commerce and Interior Departments, as well as with the National Science Foundation and the AEC. In medical and health research, we participate with a large number of Federal agencies, notably, the Department of Health, Education and Welfare.

While Defense expenditures for research and development have increased about three-fold during the last ten years, total Federal expenditures for this purpose have increased almost five-fold and are estimated to be about $15-1/2 billion for FY 1966, or 15 percent of the total administrative budget. This is indeed a large sum. It exceeds by several billion dollars our total military expenditures as late as FY 1950. In fact, it is larger than the gross national products of most of the sovereign nations of the world.

However, the high rate of increase experienced during the FY 1958-1964 period is now leveling off and this was to be expected. If the five-fold rate of increase per decade were to continue, total R&D expenditures would exceed $75 billion a year by 1975 and $375 billion a year by 1985. Obviously, this rate of growth could hardly be sustained indefinitely and a slow down of the rate of increase was inevitable at some point. It is occurring at this particular time because we have completed many of the huge and unprecedentedly costly Defense development projects undertaken during the last ten years and because the new national space program is now reaching the level off point at about $5 billion plus per year. Moreover, the ballistic missile, space and nuclear research programs have required very expensive, essentially one-time investments in test complexes and other special facilities. For the moment, the bulk of these expenditures, too, seems to be behind us and our effort can be directed in a more balanced fashion to a variety of problems.

We have, during the last decade, spent well over $10 billion on the development of ballistic missiles, including $2.3 billion on ATLAS, $2.6 billion on TITAN, $2.5 billion on POLARIS and $2.1 billion on MINUTEMAN I. To appreciate the magnitude of these expenditures, one has only to recall that the cost of developing the atomic bomb during World War II has been variously estimated at $1-1/2 to $2 billion. But, as a result of these great investments, the initial development of a new family of strategic weapons has now been substantially completed. While similar vast R&D expenditures do not need to be repeated, at least during the next few years, we intend to continue to spend substantial amounts to ensure the invulnerability of our weapons and improve their accuracy and effectiveness.

The huge outlays for the civilian space program, which through the current fiscal year will already exceed $13 to $14 billion, represent the largest and most comprehensive R&D effort for a single field ever undertaken by any nation in history. If the outlays of the Defense Department and other Federal agencies are included, total space expenditures in 1965 will exceed $6.6 billion. What effect these huge R&D expenditures will have on the size and shape of our military forces one or two decades hence, can now be only dimly perceived. We know, in any event, that our current military space efforts exceed those of the Soviets and that a variety of military functions are being met and will continue to be met by means of space devices.

Within the Defense Department, the research and development program may be divided into five significant steps:

1. Research - the effort directed toward the expansion of knowledge of natural phenomena and our environment, and the solution of problems in the physical, biological, medical, behavioral, social and engineering sciences.

2. Exploratory Developments - the effort directed toward the expansion of technological knowledge and the development of materials, components, devices and sub-systems which it is hoped will have some useful application to new military weapons and equipment. Here the emphasis is on exploring the feasibility of various approaches to the solution of specific military problems, up to the point of demonstrating feasibility with "breadboard" devices and prototype components and sub-systems.

3. Advanced Developments - the effort directed toward the development of experimental hardware for technical or operational testing of its suitability for military use, prior to the determination of whether the item should be designed or engineered for actual Service use. Here is where we begin to identify each project with a specific military application or technique, and we begin to question in depth its potential military utility. During this phase we also begin to explore the costs of the most likely applications in order to determine whether the potential operational benefit would be worth the cost of development, production and deployment.

4. Engineering Developments - the effort directed toward the development of a particular system engineered for service use and for operational employment, but which has not as yet been approved for production and deployment. It is at this point that large commitments of resources must be made to single projects. Accordingly, before full-scale development is initiated, the specific operational requirements and the cost effectiveness of the system must be confirmed, and goals, milestones and time schedules must be established.

5. Operational Systems Development - the effort directed toward the continued development, test, evaluation, and design improvement of projects which have already entered (or have been approved for) the production-deployment stage.

The first three steps -- Research, Exploratory Developments and Advanced Developments -- constitute the area of new technology formation. The last two -- Engineering Developments and Operational Systems Developments -- cover the area of development, test and evaluation of specific new weapon systems and equipment. It is particularly from the second and third steps that we acquire the "technical building blocks", i.e., the new techniques and critical components that we need for the development of major systems. We cannot do a proper job of engineering development, still less of operational systems development, unless these building blocks are available. Thus, the kind of weapon system we will have a decade from now will depend importantly upon how well we conduct the research, exploratory and advanced development phases of the R&D process over the next few years.

Research and exploratory development projects are presently being judged on their own merits, in relation to the advancement of knowledge across the entire spectrum of science and technology of pertinence to the defense effort. All too often in the past, new technology efforts had to be justified in terms of an end product development. This approach resulted in the initiation of large numbers of system developments for which the basic technology had yet to be created. And because of the large number of projects, the available funds were not adequate to pursue all of them at efficient and orderly rates. As a result, many ended in failure or were overtaken by new technologies and eventually had to be terminated before completion.

The record is replete with examples of such aborted efforts. Indeed, some sixty major R&D projects have been terminated during the last ten or twelve years after costs of well over $6 billion had been incurred. The number and value of smaller cancelled developments have never been counted.

While research and exploratory developments do not necessarily have to be directly related to specific military requirements, a full scale engineering development or operational systems development can be justified only in terms of its potential contribution to our strategy, considering both its cost and its military effectiveness, as well as the relative cost/effectiveness of other alternatives. All too often in the past systems development work was started before consideration had been given to how the proposed weapon system would be used, what it would cost, and, finally, whether its contribution to our military capability would be worth its cost.

Now before we embark on a major new weapon systems development, we first conduct what we call Pre-Project Definition studies. This is the phase during which we, together with our contractors, do our thinking and planning. These studies not only permit us to define the program more clearly, assess the technical risks, and determine the estimated costs and time schedule before we finally commit ourselves to a specific full scale development, but they also help us determine how well a proposed system might contribute to the attainment of our military objectives. Most new developments promise, if successful, to achieve a capability that can also be achieved in other ways. Thus, it has always been true that the urgency of most projects is not so great as to prevent the employment of a measured and orderly approach to development and production. More important is the fact that, in most cases, careful and comprehensive prior planning saves time as well as money and results in more effective and dependable weapons.

This is not to say that we can wait until the requirement for a new weapon system is already upon us. The lead time from the initiation of engineering development to the operational deployment of a system is entirely too long to permit such an approach. We must, in fact, anticipate our requirements far into the future. However, in doing so, we must recognize that the further into the future we project our planning the greater the uncertainties become. And, these uncertainties involve not only the future course of technological progress but also what our adversaries may or may not do. Therefore, in certain critical areas we must develop major weapon systems even though we are not sure that they will ever be deployed, or that a military requirement will actually emerge.

The YF-12A is a case in point. The deployment of a force of F-12 interceptors could only be justified if the Soviet Union were to deploy a force of new, supersonic bombers. Although a few of our intelligence specialists have maintained for several years that the Soviet Union would deploy such a force, we still have no evidence that they are doing so and the consensus of the intelligence community is that they will not do so. Nevertheless, there is a possibility, as remote as it now appears, that they may do so some time in the future and we might not become aware of it until a prototype aircraft or even the first production aircraft was actually flying. To delay the start of development of a new interceptor until then might put us at a serious disadvantage. This is a clear example where the development of an expensive technology and even a full weapons system was thought to be justified, long before a military requirement presented itself.

Many other similar programs exist. The POSEIDON, our penetration aids program and our efforts to develop a still better guidance system for our missiles, are in the same category. As I noted earlier, one

of the major applications of the POSEIDON would be against cities protected by a sophisticated, anti-ballistic missile defense system. We have no way of knowing at this time whether the Soviets will, in fact, deploy such a system. But our deterrent strategy depends upon our ability, under all foreseeable conditions, to destroy the attacker as a viable society, and this means that our strategic missiles must be capable of penetrating any kind of defense the Soviets may be able to devise. In this connection, it is nteresting to note that we have applied almost $1 billion to our developmental efforts on penetration aids during the period FY 1962 through 1965. Though they may not represent a "new weapon system" to some, they have been deployed and I can assure you that they represent an enormous increase in U.S. deterrent power.

Our research and development proposals for FY 1966 have been very carefully reviewed. Yet, in a program of this nature, we are always exploring new frontiers of knowledge and new avenues of technology, and at least some false starts must be expected. Furthermore, military requirements are always changing and new technological and scientific discoveries are continually being made. Thus, some changes in the program we are presenting here today are inevitable. For every deletion or reduction which we may have to make during the forthcoming fiscal year there are already waiting on the sidelines increases in costs or levels of effort and new projects which, if not tightly controlled, would far more than make up the difference. We would only be deluding ourselves if we were to think that an effort of this type and scope can be entirely and precisely delineated and costed 18 to 20 months before the completion of the fiscal year.

The flexibility which the Congress has wisely provided the Defense Department in the RDT&E appropriations and in the Emergency Fund and transfer authority is indispensable to the successful prosecution of the research and development program. If we are to make efficient use of our research and development resources, it is absolutely essential that we have the flexibility to eliminate, reduce or reorient any project which has not lived up to expectations. But, by the same token, we must have the flexibility to increase projects which progress faster than anticipated and to introduce new projects, the feasibility or desirability of which develops during the course of the budget year. It is impossible to schedule invention and innovation, which are the essence of technological progress. Yet we must be in a position to capitalize on them promptly when they do occur and are brought to our attention. The Defense Department Emergency Fund is one of the principal means we have to finance these breakthroughs and I strongly urge this Committee and the Congress to support in full our request for $150 million in new obligational authority and $150 million in transfer authority.

Before I turn to the specifics of the research and development program, there are two general areas which might usefully be discussed as entities rather than in terms of the separate projects which they comprise. These are nuclear testing and test detection, and the space development projects.

A. NUCLEAR TESTING AND TEST DETECTION

As I pointed out last year, the Defense Department has committed itself to four specific safeguards with relation to the test ban treaty.

1. The conduct of comprehensive, aggressive and continuing underground nuclear test programs designed to add to our knowledge and to improve our weapons in all areas of significance to our military posture for the future.

2. The maintenance of modern nuclear laboratory facilities and programs in theoretical and exploratory nuclear technology which will attract, retain, and ensure the continued application of our human scientific resources to these programs on which continued progress in nuclear technology depends.

3. The maintenance of the facilities and resources necessary to institute promptly nuclear tests in the atmosphere should they be deemed essential to our national security or should the treaty or any of its terms be abrogated by the Soviet Union.

4. The improvement of our capability, within feasible and practical limits, to monitor the terms of the treaty, to detect violations, and to maintain our knowledge of Sino-Soviet nuclear activity, capabilities and achievements.

This is, of course, a joint Department of Defense-Atomic Energy Commission program. I will report to you on the Defense Department's portion of this program whose financing is recapitulated on Table 18. For FY 1966, we have budgeted a total of $243.2 million for this program, compared with $250.6 million in FY 1965 and $243.2 million in FY 1964.

In support of the first safeguard, underground testing, we have included $28.5 million in the FY 1966 budget, compared with $16.7 million in FY 1965. The AEC is responsible for the weapons development test program to meet the needs of the Defense Department for new and improved weapons. The Defense Department is responsible for weapons effects tests. Because of the time required to reorient our original underground test program (prepared before the Test Ban went into effect) and to construct the tunnels and cavities necessary to conduct the tests, our program started slowly. However, the revision of the program has been completed and the necessary preparations are well advanced.

[redacted]

[redacted] They are designed to provide data on design criteria for deeply buried structures, cratering effects, vulnerability of ballistic missile re-entry vehicles and satellite components to X-rays, transient radiation effects on electronics equipment, etc.

In support of the second safeguard, maintenance of laboratory facilities and programs, our FY 1966 budget includes $53.0 million for nuclear weapons effects research and the Department of Defense's share of the cost of research, development, test and evaluation associated with nuclear weapons development. The "effects" research program includes laboratory and theoretical investigation of air blast and ground shock, water blast and shock effects, thermal and nuclear radiation, electromagnetic phenomena and biomedical effects. The Department of Defense's portion of the weapons development effort includes work on fuzing and firing systems, retardation systems, ballistic cases, aircraft compatibility testing and vulnerability tests. I am happy to report that, in this area, we have been successful in retaining our highly qualified staff of civilian scientists.

With respect to the third safeguard, maintenance of standby atmospheric test capability, we have budgeted approximately $47 million in FY 1966, compared with $69.4 million in FY 1965 and $87.0 million in FY 1964. Improvement of the test facility on Johnston Island was, for the most part, financed in FY 1963-65 at a cost of about $41 million. Therefore, funds required for military construction in FY 1966 total only $3.7 million. Similarly, the FY 1964-65 budgets have financed most of the requirements for research and development and some procurement of long lead time instrumentation, instrument carriers and protective packaging. The funds requested for FY 1966 will continue research and development and in certain cases the procurement of improved prototype test equipment, as well as provide for the maintenance of the equipment already on hand and the support of Joint Task Force Eight which was established to maintain a "readiness to test." Operation Crosscheck, an exercise to test our ability to resume atmospheric testing promptly, was successfully completed on 24 October 1964. We now have a capability to resume weapons effects testing on six months notice and operational systems testing on two to three months notice. The next exercise, i.e., rehearsal, is planned for March 1965. Thereafter, a minimum of one such exercise will be scheduled annually.

In support of the fourth safeguard, the monitoring of Sino-Soviet actions, we have included a total of $114.5 million in the FY 1966 budget compared with $111.9 million for FY 1965 and $96.7 million for FY 1964. Two principal programs support this safeguard: the ARPA-VELA program and the Air Force Atomic Energy Detection System.

[redacted]

The VELA program is directed to the development and demonstration of an advanced surveillance system for detecting, locating and identifying nuclear tests underground, under water and at high altitudes in space. The first VELA space launch occurred in October 1963 when two identical nuclear test detection spacecraft were placed into a nearly circular orbit at 55,000 n.mi. A second launch was made in July 1964 and the third and fourth VELA spacecraft were successfully placed into a similar orbit. All four satellites are still operational and are providing an interim nuclear test surveillance capability for high altitude and deep space detonation. Our effort in this program is now being directed towards the development of a "downward looking" capability for a VELA spacecraft, which could detect nuclear tests down to the earth's surface. It may be possible to modify an existing spacecraft for this purpose and this possibility is being investigated.

The VELA underground test detection program is also progressing satisfactorily. The use of large arrays of seismic instruments looks particularly promising for improving our detection and identification of seismic events. We are accelerating the construction and evaluation of such an installation. This array will utilize some 500 detectors spaced out over an area of 150 by 150 miles in eastern Montana. Operation of the Montana installation is expected in FY 1966 and, if the results are favorable, we will extend the program to other areas of the world.

The present Atomic Energy Detection System represents a facilities investment of about $55 million. In FY 1964, we initiated a six-year program, costing over $100 million, to expand the number of stations and modernize the equipment at existing stations. About $34 million of this program was funded in the FY 1964-65 budgets. Another $13.6 million has been included in the FY 1966 budget to continue this investment program and about $40 million has been included for operating costs.

B. SPACE DEVELOPMENT PROJECTS

While the various elements of the Defense Department's space effort are spread, on a functional basis, throughout the program and budget structures, I believe this effort can be more meaningfully discussed as a separate entity. Accordingly, we have assembled on Table 19 all of the major projects and activities which constitute the Defense "Space Program."

The Defense space program, however, is an integral part of the much larger National Space Program, expenditures for which, as I noted earlier, now total about $6-1/2 billion a year. Without question this is the largest single scientific and technological endeavor ever undertaken by the American people. It will influence the course of science and technology and, therefore, our national security programs, for decades to come.

The Defense portion of this national program is designed (1) to utilize the space environment for military purposes, (2) to complement the work of NASA and other Government agencies in those fields in which the Defense Department has already achieved a high degree of technical competence, and (3) to explore the usefulness of manned space systems for military purposes. It is not necessary, nor is it justifiable, for the Defense Department to duplicate the work of NASA or any of the other agencies engaged in the national space program. The products of their efforts are fully and freely available to the Defense Department and vice versa. Indeed, military personnel have from the very beginning actively participated in the civilian space program, and there are now about 265 officers assigned to NASA. Most of the NASA astronauts, for example, are military officers.

Frequently, the present uncertainty about the usefulness of man's role in military space missions is confused with the value of military applications of space themselves. While we indeed do not yet know how useful man will be in space, there can be no question about the usefulness of the many unmanned military space programs we have in operation today including: weather, observation, communications, geodesy, navigation, etc. In the application of space to military purposes, we presently appear to be far ahead of the U.S.S.R.

I have laid down two fundamental criteria which the Defense space effort must meet. First, it must mesh with the efforts of NASA in all vital areas, that is, the Defense and NASA programs taken together must constitute a single, integrated national program. Second, projects supported by the Defense Department must hold the distinct promise of enhancing our military power and effectiveness.

With respect to the first criterion, we have established with NASA a large number of joint studies including the reviews of the launch vehicle program, manned earth orbital vehicles, communication satellites, weather satellites, instrumentation networks, control centers, etc. As a result, several formal agreements have been concluded -- on research and technology exchange, satellite geodesy, gravity gradient tests, etc. The Aeronautics and Astronautics Coordination Board is the principal agency for effecting this coordination but key officials of both agencies meet very frequently to discuss and work out matters of common interest.

Thus, the Defense Department's program will continue to provide, together with the programs of other agencies of the Government, a broad base of technology and experience to permit the timely development and exploitation of space systems and capabilities which may be needed in the future, recognizing that lead times in certain areas such as manned military space operations may be ten years or longer. Speaking broadly, about one-half of the Defense space effort is directly associated with the unmanned military uses of space discussed above, while the other half

is devoted to the creation of technology for future applications, i.e., exploratory and advanced developments. We can be sure that new discoveries and developments growing out of this effort will eventually open up entirely new applications and capabilities which cannot now be clearly foreseen. At the same time we pursue those efforts whose military applications are evident, we must also insure against an uncertain future by continuing to create a foundation of space technology, knowledge and experience which is sufficiently broad to provide for future applications as they materialize and are identified.

The Defense Department's space program is summarized on Table 19. In total, we estimate that $1,670 million of our FY 1966 budget request is for space, about $124 million more than FY 1965 and more than double the FY 1961 level.

1. Spacecraft Mission Projects

Last year we completely reoriented our man-in-space effort. The old DYNASOAR program was cancelled and a new "Manned Orbital Laboratory" (MOL) program was initiated. The reasons for this action were explained to the Committee in considerable detail last year. In brief, we had concluded that the most immediate problem in this area was to develop a space vehicle with which we could explore man's potential contribution to military space operations, and that for this purpose the DYNASOAR's capability was too limited.

As a result of intensive studies carried out by the Air Force during the past year, we have reached several decisions regarding the future of the MOL program. These decisions were reached with full consideration of both NASA and Defense needs and in accordance with the agreement I reached with the Administrator of NASA in August 1962 to work toward a single National manned earth orbital R&D program.

As you know, we are participating in NASA's GEMINI manned flight program to the extent of executing certain military experiments which are possible in the limited volume of that craft without degrading the primary flight objective. The $2 million requested in our FY 1966 budget will complete this participation. We are also providing a number of supporting functions for GEMINI, including booster development, range and recovery support.

NASA's principal effort is the APOLLO program with which I am sure you are familiar. The APOLLO system for the lunar landing is planned to be qualified for a maximum of ten days flight time; however, NASA is also studying extensions of the system to provide for a longer stay on the lunar surface. We believe that the Defense Department, in meeting its own requirements in space, should take these existing and

future capabilities fully into account, in accordance with the concept of an integrated National space program. And, this we have done in planning our own man-in-space program.

The Air Force and the Navy have carried out a number of both inhouse and industry studies to : (1) outline possible military functions for man in orbit; (2) define ground and space experiments to determine the effectiveness of these functions; and (3) design, in a preliminary way, spacecraft and supporting equipment required for the tests in space. Included were broad systems studies which emphasized the use of hardware already developed in the GEMINI and APOLLO programs, a study of a set of primary and secondary priority military experiments, a study of the ability of man to contribute to the assembly, alignment and service in orbit of large structures such as a telescope or radio antenna, and a study of the contribution which man in orbit could make to the technology of military space activities, whether the application was to be manned or unmanned.

On the basis of these studies and our discussions with NASA, we have concluded that the objectives of the MOL program should be broadened. The following primary objectives, listed in order of priority, have been established as a guide to future planning:

(1) Development of technology contributing to improved military observational and ocean surveillance capability for manned or unmanned operation. This may include intermediate steps toward operational systems.

(2) Development and demonstration of manned assembly and servicing in orbit of large structures with potential military applications. This will interact strongly with the preceding objective.

(3) Other manned military space experimentation.

These primary objectives of MOL are essential military objectives and will, therefore, be pursued by Defense. In addition, MOL program planning will consider the following "national" objectives of scientific significance:

(1) Basic scientific and general technological manned experimentation.

(2) Development and demonstration of manned assembly and servicing in orbit of large non-military structures, such as astronomical telescopes and radio antennae for scientific use.

(3) Biological responses of man in orbit for 30 days or more.

We believe that a program which satisfies the military objectives can also accomplish many of the scientific and technical experiments of significant non-military importance.

We have reconfirmed the characteristics we feel are important for an orbiting vehicle. These include: (a) at least two men, (b) 30 days duration, (c) 300 to 700 cubic feet of pressurized volume per man, (d) capability for extensive activity outside the vehicle, (e) precise attitude control, and (f) safe crew ascent and descent.

There are a number of possible equipment configurations which could provide a system with these characteristics, including an adaptation from the GEMINI or APOLLO programs where this can be done without interfering with the national lunar objectives. The choice should be made on the basis of effectiveness, timeliness and cost. No new hardware should be developed unless necessary.

Accordingly, we have adopted the following course of action:

(1) The Air Force will define the experimental program to meet the broadened military objectives, placing emphasis on developments that may lead to operational systems. The Air Force will determine the essential vehicle characteristics to meet those objectives and, in cooperation with NASA, will define significant additional experiments addressed to the national objectives.

(2) The Air Force will assess the proposed specifications of a MOL system (GEMINI B, laboratory and TITAN IIIC) against the needs of the experimental program. Three preliminary design studies will be initiated with industry using FY 1965 MOL funds, to provide the cost and technical information needed to select the final configuration. The Air Force will also examine approved configurations of the APOLLO system and, in cooperation with NASA, will examine the modified configurations of the APOLLO system now being studied by NASA to meet its objectives.

(3) To preserve the option for proceeding with MOL on an orderly basis and to make effective use of the TITAN III R&D flight program, action will be taken (using FY 1965 funds) to qualify components of the GEMINI B plus laboratory configuration aboard TITAN IIIC approved development vehicles. (No men will be carried on these flights.)

(4) One hundred fifty million dollars has been included in the FY 1966 budget request for continuing the design studies, narrowing the effort to two contractors for program definition, and a single contractor for subsequent full scale development. The study contractors to be selected in FY 1965 will be chosen on the basis of their ability to execute development, whether the approach finally selected is the GEMINI B or a version of the APOLLO system. However, the FY 1966 funds will not be obligated until we are convinced that a satisfactory approach has been found and that the expected results of the program will be commensurate with the cost.

The next item on Table 19, "GEMINI (Manned Space Flight)" represents the Defense Department's participation in the NASA-GEMINI program. We consider this project part of our overall "man-in- space" program, both for the basic knowledge and experience we gain from it and the contribution it makes to the MOL program. The $2 million requested for FY 1966 will complete this project.

[redacted]

[redacted]

I have already discussed the next item, "Nuclear Test Detection (VELA)" in connection with the Test Ban Treaty safeguards. Twenty-two million dollars is included for this program in the FY 1966 budget.

Last year I informed the Committee that we were actively exploring the possibility of securing satellite communication services through the system which the new Communications Satellite Corporation was planning to build and operate. I noted at the time that "Major problems related to global service, security of the military circuits and the location and control of the ground stations have yet to be resolved." To provide the time for negotiations with the Corporation, we decided to hold our own satellite communications program in the research and development stage and support it at a minimum sustaining level.

While our studies clearly indicated that a shared Defense-Communications Satellite Corporation system was not only technically feasible but also would have been more economical, it became apparent last summer that such an arrangement was not compatible with the international agreements into which the Corporation was entering. Accordingly, we decided to resume development of our own system since satellite comminications promise an improved capability for communications with remote areas and a much more secure and flexible system of tactical communications for Naval forces at sea. This system will be launched and ready for use in early calendar year 1966.

Originally, we had planned to use the ATLAS/AGENA combination to launch the satellites into medium altitude polar orbits. Now with the progress made in the development of the TITAN IIIC and in satellite technology generally, we believe we can launch the entire system of 24 satellites into a high but random equatorial orbit with just three launches of eight satellites each. This change will also greatly reduce the complexity and cost of the required ground environment. We now believe we can achieve a better system, at a cost $70 million cheaper than the one previously envisioned. The design objective for average operating life expectancy of the satellites in the initial system is three years with an assured minimum of 1-1/2 years.

Concurrent with the development of the initial system, studies are being conducted to determine the operational and technical characteristics required for a more advanced and longer-lived system, which may be available for launch in FY 1968.

Sufficient funds are available for the completion of the initial system's space elements which are the responsibility of the Air Force. However, in addition to $18 million of prior year funds, the Army will require an additional $2 million in FY 1966 for further development of the ground stations; $3.5 million will be required for overall systems management, which is the responsibility of the Defense Communications Agency; and $9 million will be needed for the Navy element of the system. The total request of about $33 million for FY 1966 is shown on Table 19.

"Program 435 (TRANSIT)", the Navy navigational satellite system, will require $22.9 million in the FY 1966 budget. This system is designed to provide, under all weather conditions, navigational fixes on any point of the earth's surface within one-tenth of a nautical mile (600 feet). Primarily for the support of the POLARIS program, the system, which reached full operational status in July 1964 also has wide application for all navigational purposes. Although the development phase of this program is substantially completed, some research is continuing to improve the life and reliability of the satellite. Of the $22.9 million shown on Table 19, $7 million is for this purpose. The remaining $16 million is for annual operating costs including the purchase of launch vehicles required to replace inoperative or dying satellites.

[redacted] (Satellite Inspector)" was completely reoriented as I informed the Committee last year. This last program was originally designed to provide a capability to rendezvous with and inspect, using various types of sensors, potentially hostile orbital objects and transmit the resulting data to ground station. The proposed system proved to be extremely expensive, if not technically impractical. Much of the fundamental technology is now being pursued through other means -- rendezvous in the MOL program and inspection of orbiting objects in the Satellite Interceptor/THOR program as well as in the two large ground-based optical programs at Cloudcroft, New Mexico, and Maui, Hawaii. The Satellite Inspector project has therefore been deleted from the program.

The FY 1966 request includes $10.6 million for the space "Geodesy" programs of the Army, the Air Force and the Navy. Of this amount, $7 million is required for the Navy's geodetic satellite tracking system (Project ANNA) which is used to map the earth's surface, measuring more accurately its size, shape and gravitational field. The remaining $3.6 million will support the space-related elements of the Army's mapping and geodesy program which is concerned with the development of improved methods of acquiring and processing geodetic and mapping data on a global scale.

[redacted]

2. Vehicle, Engine and Component Developments

The largest item in this category is still the "TITAN III" which I described to this Committee in considerable detail in past years. Designed to serve NASA as well as Defense Department purposes, TITAN III will be a standardized launch vehicle for a wide range of manned and unmanned missions. The TITAN III actually consists of a number of standardized building blocks: modified TITAN II first and second stages; a new restartable, storable propellant upper-stage (transtage); a control module; and two "strap-on" 120 inch diameter solid propellant rocket motors. Until recently the TITAN III was being developed in only two configurations -- Configuration A without "strap-on" solid propellant motors, and Configuration C with solid propellant motors. TITAN IIIA would be able to place about 5,800 pounds into a 100 nautical mile orbit; TITAN IIIC would be able to place about 25,000 pounds into a 100 nautical mile orbit, about 5,000 pounds to escape velocity and about 2,100 pounds into synchronous equatorial orbit. These payload weights assume that the launch would be made from the Eastern Test Range (ETR).

On December 28, 1964, at an incremental cost of about $70 million, we initiated the development of the TITAN IIIX which uses the basic TITAN III core suitably adapted to carry the already developed AGENA vehicle. The decision to proceed with TITAN IIIX was made with NASA concurrence, after careful consideration of several approaches to meet certain firm, current military needs for increased payload capacity at the Western Test Range (WTR). The TITAN IIIX program includes the modification of one existing launch pad at WTR to be available for operational use early in FY 1967. A production rate of 12 per year is planned. TITAN IIIX/AGENA will be able to place about 7,100 pounds in a 100 nautical mile polar orbit, launched from WTR (8,800 pounds if launched from ETR).

The basic TITAN III development is proceeding essentially on schedule. Ground qualification testing of all TITAN III subsystems has been completed and vehicles for early R&D flights have been accepted by the Air Force. On December 10, 1964, the second development launch of the TITAN IIIA was successfully accomplished. All systems performed satisfactorily and a dummy payload was placed into a 100 nautical mile circular orbit. Development of the solid propellant motors has also proceeded very satisfactorily and the first flight of the TITAN IIIC is scheduled for the second quarter of this year.

Although progress to date clearly indicates that development could be completed by June 1966, a decision has been made to stretch out the basic TITAN III development program schedule to June 1967. The purpose of this stretch-out is to assist in maintaining a TITAN IIIC production

[redacted]

and launch capability for the various "user" programs, which will not require the TITAN IIIC until calendar year 1967. It will not affect the three initial Defense communication satellite payloads currently assigned to three of the TITAN IIIC development flights. The follow-on Defense Communication Satellite and probably the MOL are expected to use the TITAN IIIC once vehicle development is complete.

The cost of the basic TITAN III R&D program to completion should be between $880 and $890 million. This compares with a figure of $810 million which I gave the Committee last year but is still within our original estimate of $800 to $900 million. The principal reason for the increased cost estimate has been technical problems encountered during development. As you know, the TITAN III program has been carefully controlled and intentionally very little allowance has been made for contingencies. The fact that we now plan to initiate construction of a WTR launch complex in FY 1966, which will be suitable for launching either a TITAN IIIC or TITAN IIIX as future military needs may require, has also contributed to the increased cost, as will the program stretch-out. All studies to date indicate the TITAN III will be a versatile and economical launch vehicle of great importance to our space program and it should pay for itself in a lower cost per launch over its operational life.

The FY 1966 budget includes $35 million for "Reentry and Recovery (START)" projects. Among these projects is the ASSET glider, a small, winged vehicle weighing about 1,100 pounds which we are using to explore the Mach 2 - Mach 20 flight regime. ASSET vehicles are launched by a THOR booster to an altitude of about 200,000 feet and velocities ranging between 13,000 and 19,000 feet per second. As the ASSET vehicle glides down the re-entry corridor, data on temperature, pressures and acceleration are collected and stored on board the glider and simultaneously transmitted to ground stations. The vehicles are recovered from the ocean for physical inspection of re-entry effects on materials. A total of five launches has been made including four highly successful re-entry tests. We hope this project will ultimately lead to the development of a small lifting body re-entry vehicle which could return military and scientific data from orbiting space craft to predesignated landing areas.

The next item is "Advanced Space Guidance" for which $10 million is requested in the FY 1966 budget. This effort, formerly titled "Standardized Space Guidance", is now being carried as an Advanced Development program. As a result of a study to define the requirements for a follow-on standardized space guidance system, it was determined that the first priority was the development of advanced components and subsystems from which a complete guidance subsystem could be developed. This effort is more appropriate in Advanced Development where a level of effort program will be carried out.

The $6 million included in the FY 1966 budget for "Solid Rocket Engine Development" will complete Defense Department participation in the national large solid fuel booster development program which was initiated in the summer of 1961. NASA has taken over the funding of the 260" motor development and the Defense Department is concentrating on the demonstration of the 156" segmented motors and supporting technology. The thrust of this latter engine is in the three million pound class. The technology developed in this project will also be applicable to future ballistic missiles using large solid motors.

Last year we initiated a new "Liquid Rocket Engine Development" program, designed to demonstrate the feasibility of the modular approach to large rocket engine development. This engine demonstration will incorporate advanced design features offering high performance and light weight. Future applications of this technology could apply to both ballistic missiles and space launch vehicles. The FY 1966 budget includes $8 million to continue this work.

The next item, "Chemical Rocket, Space Maneuvering," is a new program for which $7 million is requested for FY 1966. This program will provide a space maneuvering capability for possible near term application as well as demonstrated propulsion components for future needs. This system will be capable of efficient multiple re-starts in a space environment limited only by the availability of propellants.

3. Other Defense Activities Supporting the Space Program

The Ground Support category shown on Table 19 includes the prorated cost of the missile ranges and test instrumentation as well as the satellite detection and tracking systems. The largest item in this category is the $116 million for the Eastern Test Range.

The next largest element in this category is the ground based system for satellite detection and tracking -- "SPACETRACK (USAF)" and "SPASUR (Navy)". These are the field elements of the NORAD Space Detection and Tracking System (SPADATS). SPACETRACK is a global network of conventional radars and optical devices which detect and track satellites to determine their precise orbits. SPASUR is essentially a warning screen which, when penetrated by a satellite sounds an alarm. The position of the satellite is then determined by triangulation. The FY 1966 budget includes $40 million for SPACETRACK and $6.8 million for SPASUR.

The $30.2 million requested for "Satellite Tracking and Control Facilities" will continue the modernization of the network of six tracking stations and one control center which provides an "on-orbit" tracking, command, control data "read-out" and recovery for all Defense space vehicles except those of the Communications Satellite (COMSAT) and Navigational Satellite (TRANSIT) programs.

The last two categories, "Supporting Research and Development" and "General Support", include a wide range of activities constituting essentially the overhead of the space program.

*   *   *   *

I would now like to turn to the details of the Research and Development Program in FY 1966 which are summarized on Table 20.

C. RESEARCH

As I noted earlier, our military strength a decade or more hence will depend importantly on the skill and energy with which we conduct our current research effort. It is from this realm of ideas and theory that the new devices and inventions applicable to military requirements eventually emerge.

In addition to its own inhouse laboratories, the Department of Defense supports nearly half of all the academic research in the physical sciences and engineering now being done in American universities and colleges. As the size of the faculty and number of graduate students in these institutions increase, their research potential will expand. We believe that in the interest of the nation this potential should be fully exploited, not only for military purposes, but for the benefits of our society as a whole. Accordingly, the Government as a whole should each year increase its support of research in these institutions and the Defense Department should carry its share of that increase. From the point of view of the Defense Department itself, it is extremely important that we maintain our contacts with the creative research people who staff these institutions. These are the people who, in the past, have been responsible for some of the most important technical improvements in the equipment now being used by our military forces and we should not deprive our national defense of the benefits of their creativity. We have therefore included in our FY 1966 request a total of $387 million for research, about ten percent more than the amount provided for the current fiscal year. A large part of this increase is required to offset the rise in research costs, which have been moving up at a rate of about five percent a year.

In order to increase the effectiveness of our research expenditures (and our exploratory development expenditures as well), we are examining the missions and management practices of our inhouse laboratories, which spend about one-third of these funds. A general upgrading of both the quality and utilization of these laboratories, together with a reduction in administrative restrictions on the details of their technical

operations is urgently needed. Furthermore, to reduce unnecessary duplication in research and exploratory development, we have initiated a new automated system, the Research and Technology Resume, for reporting progress on current projects. These reports are prepared in a standard digital language which permits their rapid and proficient interchange among the Military Services and Defense Agencies and, by special agreement, with NASA. Finally, to make full use of the research potential of universities in all parts of the United States, the Executive Branch under the leadership of the President's Office of Science and Technology is formulating a program to develop centers of technological excellence in all parts of the country, for both civilian and military purposes.

D. EXPLORATORY DEVELOPMENT

During this stage of research and development, we approach the solution of specific military problems up to the point of developing hardware for operational testing. Along with research, exploratory development forms the pool of technical knowledge from which future weapon systems will be devised and designed. A total of $1,142 million has been included in our FY 1966 budget, $10 million more than was provided for the current fiscal year. While this increase is proportionately quite small, we expect to improve greatly the utilization of these funds, particularly in our own laboratories, by identifying those management conditions which have in the past proved to be highly productive of useful military results, and then applying them throughout the Defense establishment.

1. Army

The Army's exploratory development effort provides for studies and analyses and fabrication, test, and evaluation of various components to establish their feasibility, practicability and relative advantages for use in future major development programs. This effort includes: components for new infantry close-support artillery and air defense missile systems; new and improved propulsion systems for Army aircraft; applied research in rocket propellants; work on new power sources and energy transformation devices; new, lighter, improved ground surveillance and target acquisition techniques; improved designs and materials for small arms and armor defeating projectiles; nuclear weapons effects as applied to Army equipment; applied research directed toward improved surface mobility, particularly in remote areas; mine warfare and barrier research; and mapping and geodetic research directed toward overcoming the limitations of current equipment and techniques with respect to speed and extent of area covered.

About $49 million of the $254 million requested for the Army in FY 1966 will be devoted to biological and chemical warfare projects, including the identification of and experimentation with potential agents,

studies of dissemination techniques and equipment characteristics and work on detection and defensive measures.

2. **Navy**

The Navy's exploratory development effort is planned to produce improved "know-how" for the performance of all important naval functions. Included are the detection and localization of underwater, surface, and air targets; environmental surveillance with emphasis on the air-ocean interface; navigation; command-control; weaponry; ship and aircraft construction; and personnel and logistics.

The overall program on surveillance and command-control includes work on radar, ASW detection devices, jamming devices, data correlation techniques, navigation devices, communications, etc., for both ships and aircraft. In the field of ordnance, emphasis will be placed on non-nuclear air launch systems. Missile propellants, guidance systems and countermeasures will also be studied. Several projects involve advanced aircraft concepts, with emphasis on simplicity, endurance and low-speed characteristics. Work related to ships and submarines will concentrate on hull structures, integrated controls, and fatigue characteristics of deep-diving submarines, as well as advanced propulsion systems (including nuclear) and measures to reduce underwater noise levels. About one-third of the $342 million requested for the Navy in FY 1966 will be devoted to problems directly related to ASW.

3. Air Force

About one-fourth of the $316 million requested for the Air Force's FY 1966 exploratory development program will be devoted to space or space-related subjects. Included are studies, experimentation and component developments in such fields as guidance, flight control, propulsion, life sciences, surveillance and electromagnetic techniques.

In other areas, emphasis will be given to improving technology related to advanced tactical and strategic missiles, new propulsion cycles for hypersonic manned systems, over-the-horizon radars, V/STOL aircraft, the feasibility of laminar flow control in supersonic flight, new materials and structural concepts, technology related to reconnaissance, communications, command and control, intelligence techniques, computer and data processing, electromagnetic warfare and advanced weapons.

4. Advanced Research Projects Agency (ARPA)

A total of $230 million is included in the FY 1966 program for ARPA's exploratory developments projects, compared with $227 million provided in FY 1965 and $253 million in FY 1964.

a. Project DEFENDER

We have included $127 million for Project DEFENDER, which is concerned with the development of the scientific and technical knowledge needed for the design of U.S. defenses against ballistic missiles and satellites, and for the assessment of the ability of U.S. ballistic missile systems to penetrate Soviet defenses. The project involves the making of precise measurements of ballistic missile flight phenomena which are of importance to the operation of a ballistic missile defense, the development and application of new ballistic missile defense techniques and the study of advanced defense system concepts. [redacted]

The Pacific Range Electromagnetic Signature Studies (Project PRESS) will continue to observe full scale missiles during reentry. Improvements in radar and optical sensors will be made. Data reduction and analysis facilities will be greatly expanded.

[redacted] Other important tasks include work on improved signal processing techniques for over-the-horizon radar systems, continued development of high acceleration propulsion techniques for interceptor missiles and the development of optical techniques, including the use of lasers, for satellite detection and for discrimination in ballistic missile defense systems. The penetration aids program will emphasize the development of advanced technology for future applications.

b. Project VELA

I have already discussed this project in connection with the Test Ban safeguards program. Fifty-nine and three-tenths million dollars has been included in the FY 1966 budget to continue this work, about the same amount provided for FY 1965.

c. Project AGILE

This project is designed to provide research and development support for the solution of remote area conflict problems with primary emphasis on requirements of indigenous forces in guerilla warfare situations. AGILE is but part of a much larger effort in counterinsurgency warfare research for which a total of about

$160 million has been included in the FY 1966 RDT&E budget. Although the needs of the war in South Viet Nam will continue to receive our urgent attention, emphasis in this project is now being shifted from "quick fix" solutions to materiel and equipment problems to the broader problems of counterinsurgency warfare in general. Principal attention will be given to the analysis of specific requirements for this type of conflict including: studies of mobility and surveillance; the development of non-lethal weapons for use in areas heavily populated by civilians, improved identification techniques through the use of chemical and biological sensing equipment; the improvement of night vision through airborne battlefield illumination and infrared imagery; and acoustics surveillance countermeasures.

E. ADVANCED DEVELOPMENT

This category includes projects which have advanced to a point where the development of experimental hardware for technical or operational testing is required prior to the determination of whether the items should be designed or engineered for eventual service use. In contrast to engineering developments where design specifications are employed, advanced developments permit the use of performance specifications which provide the contractor much greater latitude in meeting the requirement, thereby encouraging innovation. Both the Over-the-Horizon radar and the anti-satellite systems were developed in this category but turned out to be easily convertible to operational systems. To encourage innovation, we plan to expand the value of advanced development projects from $572 million in FY 1965 to $828 million in FY 1966, partly at the expense of engineering developments.

1. Army

The first two items on the Army list of advanced developments -- "Operational Evaluation V/STOL" and "New Surveillance Aircraft" -- are both part of a broader Defense Department program for the development of experimental prototype vertical, or short, take-off and landing aircraft suitable for operational testing by the three Services. Both of these projects have heretofore been funded on a tri-Service basis. The first was formerly known as the "Tri-Service V/STOL Aircraft" program and was funded, roughly, one-third by Army, one-third by Navy and one-third by Air Force. It actually encompassed three separate V/STOL developments -- the XC-142A and X-19A managed by the Air Force and X-22A managed by the Navy. The second, the "New Surveillance Aircraft," was funded one-half by Army and one-quarter each by the Navy and Air Force and also encompassed three separate developments -- the P-1127 HAWKER, the XV-4A and the XV-5A -- all managed by the Army. These financing arrangements have proven to be unduly cumbersome and beginning in FY 1965,

each project is being funded by the managing agency; the FY 1966 budget has been prepared on this basis. Accordingly, only a nominal amount is requested for the Army in FY 1966 to participate in the Tri-Service evaluation of XC-142A, X-19A and X-22A.

The XC-142A is the largest of the three projects with a total estimated cost of $120 million for five test aircraft. This tilt wing turbo prop transport has a gross weight of about 37,000 pounds, a four ton payload, a cruise speed of more than 250 knots and a combat radius of 200 to 300 n.mi. The first prototype flew as a conventional-type aircraft in September 1964 and successfully transitioned from hovering to conventional flight on January 11, 1965. Further technical and operational evaluation will be conducted on all five aircraft during the balance of FY 1965 and through FY 1966. In addition to the Army, Navy and Air Force, both NASA and FAA will also participate in the test and evaluation program to ensure maximum use of the knowledge obtained from this program.

The X-22 is a twin tandem tilting duct fan-powered flight research vehicle. Two prototypes are being built at a total estimated cost of $32 million with the first flight scheduled for July 1965. The X-22 incorporates a variable stability and control system which will enable the aircraft to simulate the characteristics of other aircraft designs and should provide valuable technical data on stability and control criteria for V/STOL aircraft in general.

The X-19A is another research aircraft with twin turbines and four tandem tilted propellers. Two prototypes are being procured at an estimated cost to the Government of $14 million. The first flight was made in November 1963 and flight testing will continue through FY 1966.

The largest development in the New Surveillance Aircraft program, for which $7 million has been included in the FY 1966 budget, is the XV-6A (P-1127 HAWKER), a British designed light weight V/STOL strike-reconnaissance aircraft which was first flown in October 1960. Although the operational capabilities of this aircraft were marginal, it nevertheless promised to provide an early source of technical and operational experience with a V/STOL aircraft in a fighter configuration. Accordingly, in 1962 the United States joined with Germany and the United Kingdom in the further development of this aircraft. A total of nine aircraft are to be constructed under the joint program and six have already been completed. The U.S. share of the cost is estimated at about $38 million, including approximately $6 million in FY 1966. The initial operational suitability testing of this aircraft will be conducted in the U.K. by a tri-partite squadron made up of three aircraft each

[redacted]

from the U.S., U.K., and Germany. Upon completion of the test program in the U.K., further tests may be conducted in the U.S. with at least three aircraft.

In addition to the P-1127 program, the U.S. is participating in several cooperative R&D programs with Germany and France which provide for an exchange of technical data on V/STOL technology. The German and French V/STOL projects incorporate variations in airframe and propulsion designs which have not been duplicated in the United States.

The XV-4A, the second development under the New Surveillance Aircraft program, is an augmented jet lift design. Two research aircraft have been built at a cost of $4.2 million. The first conventional flight was made in July 1962. The aircraft hovered in June 1963 and transitioned from hovering to conventional flight in November 1963. One aircraft was lost in the summer of 1964 but flight testing is continuing on the second aircraft.

The XV-5A, the third development under the New Surveillance Aircraft program, is a fan-in-wing design. The first conventional flight was made in May 1964 and a full V/STOL transition was demonstrated in November 1964. Two prototypes are being procured at a cost of $16.1 million. Flight testing will continue through FY 1966.

Including the Navy and Air Force V/STOL projects, a total of about $79 million is included in the FY 1966 budget for this program compared with $93 million in FY 1965 and $98 million in FY 1964.

The next item is the "Heavy Lift Helicopter" which was started in FY 1963 with the purchase of six off-the-shelf, heavy lift "flying crane" type helicopters. These machines are being used to test the feasibility of using very large helicopters to move heavy Army equipment over otherwise impassable terrain in support of combat operations. The $3 million requested for FY 1966 is to continue field evaluation of the six helicopters. If successful, we plan to provide one company of 12 aircraft for each field army.

For "Aircraft Suppressive Fire Systems," $4 million is included in the FY 1966 budget. This program provides for the translation of exploratory research in airborne weapons into prototype hardware. Included are such projects as a stabilized sight for the airborne SS-11 wire guided anti-tank missile, tracking evaluation of the SOLO automatic "lock-on" tracker and the evaluation of various range finder techniques for helicopter use.

[redacted]

[redacted]

The "CCIS for Field Army" is a command and control information system which we are trying to develop for field army use by applying automatic data processing techniques to the five inter-related functions of fire control, intelligence, operations, logistics and personnel. Considerable progress has already been made in two areas -- intelligence and fire support -- and the $13 million requested for FY 1966 will support work in the other three areas and will be used to develop more efficient automatic data processing equipment and communications. As I indicated earlier, this type of integrated Command and Control Information System would be particularly important in a tactical nuclear war in Europe.

The next item, "Surface-to-Air Missile", for which $15 million is requested in FY 1966, is the advanced missile system capable of use against sophisticated aircraft and short range ballistic missiles, which I discussed earlier as a means of air defense for the field army. Because of the complexity of the entire air defense problem, we have decided to concentrate our efforts during FY 1966 on technological investigations and system definition studies. Development of various other essential components of this system, e.g., phased array radars, are also proceeding in other projects.

The next item, "DOD Communication Satellite, Ground", is the Army portion of the Defense Communications Satellite Program for which $20 million is required for FY 1966. I discussed this system earlier in connection with the space programs.

The projects in the next two line items -- "NIKE X Experiments" and "Anti-Tank Weapons" -- have been moved forward into more advanced stages of development or into production.

2. Navy

The first two items in the Navy list of advanced developments represent the Navy's participation in the Department of Defense V/STOL development program. The $5 million requested for "V/STOL Development" is to continue work on the X-22 which is now being completely funded by the Navy. No funds are requested in the Navy's budget for "P-1127 HAWKER" which is now being entirely funded by the Army.

The $6 million requested for "Advanced Aircraft Engines" is for a new program designed to demonstrate the technical feasibility of a high thrust-to-weight ratio, turbo-fan engine, including thrust deflection and augmentation systems. Such an engine would have a wide application to V/STOL and conventional general purpose attack aircraft in both the subsonic and supersonic regimes.

[redacted]

I have already discussed the next item, the "Advanced SAM System", for which $12 million is requested in FY 1966. This is the surface-to-air missile system which we hope will eventually replace the TERRIER, TARTAR and TALOS in the early 1970s. Development is being concentrated on the multi-function phased array radars, digitized computers and micro-electronics which should permit the development of a lower cost, smaller and more effective fleet air defense system.

The "Advanced Anti-radiation Missile System," for which $6 million is requested in FY 1966, is contemplated as a follow-on to the SHRIKE missile in the early 1970s. Emphasis will be placed on development of a seeker with a broad-band coverage and capability against different kinds of radars. Although the Navy will do the work on the sub-systems, this missile development is also of interest to the Army and Air Force.

The $5 million requested for the "Advanced Sea-based Deterrent" project would continue a broad program of investigation and applied research focused on possible configurations of future sea-based strategic systems from which an advanced weapon system may eventually evolve. Among the areas being explored are materials and structures for deep submergence, deep capsule launch and new re-entry systems.

The $13 million requested for "Astronautics" in 1966 includes $6 million for the Navy's portion of the Defense Communications Satellite program and $7 million for satellite geophysics (Project ANNA), both of which I discussed in the Space program.

The remaining items on the Navy's advanced development list are all related to underseas warfare. As I indicated earlier, improved weapons and equipment are considered much more urgent at this time than large numbers of additional ASW ships. We have included in the FY 1966 budget a total of $386 million for ASW RDT&E, $121 million under Advanced Developments.

The first item in this group is "ARTEMIS/Underwater Acoustics", a large scale experimental effort in the long range detection of enemy submarines by active means, which is directed at extending our basic knowledge of sonar techniques, particularly in low frequency acoustics, a science vital to the solution of the long range detection and surveillance problem. Receiving arrays have been installed at 500 to 1,200 fathoms in waters south of Bermuda and a sound source has been mounted aboard a ship. The $5 million requested for FY 1966 will be devoted to the study of low frequency acoustic echo ranging to distances of 500 miles and to investigating the effects of reverberation on acoustical signals.

[redacted]

The second project in this group, TRIDENT, comprises a large number of advanced development efforts [redacted] For FY 1966, $4 million is requested to continue this project [redacted]

The next item, "Airborne ASW Detection Systems," for which $21 million is requested in FY 1966, includes a number of related projects. One project involves the development of an integrated avionics system for use in new aircraft to counter high speed deep diving submarines. Another project is concerned with investigating the feasibility of an ASW helicopter-based detection system which could shift from the search to the attack role without loss of target contact. Work will also be conducted under this project on sonobuoy systems which can localize data with sufficient accuracy to allow ASW aircraft to attack submarines [redacted]

The next two projects involve the development of new sonars, the first for a submarine and the second for a surface ship. The "Advanced Submarine Sonar Development", for which $13 million is requested in FY 1966, was initiated this year and is directed to the development of a passive sonar with vastly increased performance, reliability and maintainability, to cope with the "quiet" submarine threat anticipated in the 1970s. Project definition results will be evaluated in FY 1966 and development contracts will be awarded for the design fabrication and testing of developmental models in FY 1967-1968, with the hope of having the new sonar available for the FY 1969 shipbuilding program.

The "Advanced Surface Sonar" project involves two major efforts -- [redacted] would have a passive and active detection capability many times greater than our present [redacted] effort will provide increased detection, range and classification capabilities for the existing AN/SQS-23 sonar [redacted]

The "Acoustics Countermeasure" project, for which $5 million is requested in FY 1966, is designed [redacted]

[redacted]

[redacted]

The $2 million requested for "Hydrofoils" in FY 1966 is for the evaluation of the 110 ton 45 knot patrol craft already completed and the 320 ton 50 knot hydrofoil auxilliary ship to be completed late in 1965. The evaluation effort will concentrate on hydronamic structure, propulsion and control systems in order to determine the utility of these ships in the ASW and other roles.

One of the important efforts being greatly expanded in FY 1966 is the "Deep Submergence Program" for which $18 million is requested. This program is concerned with the exploration and exploitation of the continental shelf and the ocean depths including: extended manned operation at air pressures corresponding to 600 foot depths, submarine personnel escape and rescue down to depths of 2,000 feet; the location, identification and recovery of small objects down to depths of 20,000 feet; the recovery and salvage of large objects in depths down to 600 feet; deep diving submersibles; and oceanographic research. This program which is closely related to other supporting research and development efforts, is also expected to contribute directly to the requirements of other Government agencies.

The program "Reactor Propulsion Plants", for which $20 million is requested in FY 1966, covers two major projects. One of these is directed to the development of a "natural circulation" nuclear power plant which would provide a quieter, safer, more reliable propulsion plant for submarines. This project will require $6 million in FY 1966. Results of work conducted under the second project, originally directed to the development of a smaller, less expensive single reactor power plant for frigates and destroyers, have established the feasibility of a [redacted] power plant with a very long fuel life. Since two such reactors could produce as much power as four of the reactors on the ENTERPRISE, we have asked the AEC to develop a [redacted] power nuclear propulsion plant for possible use on the attack carrier

tentatively planned for the FY 1967 shipbuilding program. The $14.2 million requested for this project would complete the Navy's share of the development (propulsion plant machinery as opposed to the reactor development of the AEC), and would provide for testing certain prototype components.

In discussing the destroyer escort program under the Navy's General Purpose Forces, I pointed out that the emphasis on the SEA HAWK ASW escort project had been shifted to work on the four essential components of the system. One of these components is included among the Navy's engineering development projects which I will discuss a little later. The other three are included in advanced development.

The first of these, "Propulsion Development SEA HAWK," for which $14 million is requested in FY 1966, will concentrate on the development of a combined gas turbine propulsion system for ASW ships, (possibly with a regenerative cycle turbine as the basic unit). Such an engine would be considerably more efficient at the high speeds required of destroyer escorts and considerably lighter in weight than a conventional power plant.

[redacted]

For the third component, the "ASW/Ship Integrated Combat System," $1 million is requested for FY 1966 to investigate the cost and feasibility of developing a single system which would integrate command and control with the control of weapons and the sonars. Such an integrated system would be particularly useful in an ASW escort ship where a quick, coordinated effort is essential for the successful execution of the mission.

[redacted]

[redacted]

3. Air Force

The first four items on the Air Force list of advanced developments are all part of the V/STOL aircraft technology program discussed earlier.

The $8 million requested for "Tri-Service V/STOL Development" will continue operational evaluation of the XC-142, the X-142A and the X-19A.

The $8 million requested for "V/STOL Aircraft Technology" provides for the test and evaluation of various domestic and foreign V/STOL concepts and equipments with a view towards the eventual design of an operational V/STOL fighter-type aircraft. Included in this evaluation are the British HAWKER P-1127, the French Mirage IIIC and the German VG-101 and VAK-191B.

The $30 million requested for "VTOL Engine Development" encompasses two separate types of engines -- one, a pure lift engine and the second, an engine which can deflect its thrust to produce lift during take-off and landing and also be used for forward propulsion. It is clear from our extensive work on V/STOL aircraft that the key to further progress is the availability of more efficient power plants. Much of the technology has been developed under other related R&D projects but we feel the time is now ripe to undertake the actual development of hardware for test and evaluation.

The fourth project on the list, $10 million for a "Light Weight Turbojet", is essentially to demonstrate the technology for light weight turbo engines for various purposes including V/STOL. The thrust to weight ratio sought in this project is twenty to one, much higher than found in existing engines.

The next two projects "Overland Radar" and "AWACS" are closely related. The first, for which $8 million is requested in FY 1966, concerns the development of the radar technology which would be needed in the development of an airborne warning and control system (AWACS). An aircraft with this mission would need a radar capability of detecting and tracking airborne targets over land in the presence

of severe ground clutter. This is very difficult and almost impossible at the distances and with the speeds originally planned. A reduced performance AWACS may well be possible but the radar must also be capable of a track-while-scan operation and of height ranging. The $3 million requested for AWACS would initiate systems development at a slower rate compatible with the integration of the aircraft and the radar.

For "Tactical Fighter Avionics", $31 million is requested for the development of an advanced air-to-air and air-to-ground delivery capability. In this program, state-of-the-art technology is developed into hardware which would greatly improve night time and all-weather delivery when adapted to such aircraft as the F-111A.

The $10 million requested for "Reconnaissance Strike Capability" is to develop and demonstrate a capability with multiple high-resolution sensors such as side-looking radars, for both the Strategic and the General Purpose Forces.

The $10 million requested for the "Close Support Fighter" is to (a) evaluate existing aircraft such as the A-4, A-6, A-7 and F-5 for the close support role and (b) cover the cost of modifying one of these types of aircraft for the Air Force close support mission. Our purpose here, as I noted earlier, is to explore the possibility of developing a low cost per unit aircraft to be used together with the F-111A in a mixed tactical force, since there are many missions which do not require such high cost/high performance aircraft as the F-111A or even the F-4.

The FY 1966 budget includes $6 million to continue the X-15 project. This rocket powered research aircraft has contributed a great deal of useful knowledge, not only to aircraft design but also to our space effort. The X-15 is now being used as a "test bed" aircraft for a group of advanced experiments in aeronautical and space sciences, including aerodynamic research, air-breathing propulsion and the demonstration of supersonic transport structural techniques.

The $5 million requested for "Tactical Missile Guidance Development" would provide for the fabrication and testing of several radiating and non-radiating, homing and tracking guidance heads. The best of these heads will be installed in existing missiles for further demonstration of their capabilities.

To wrap up the Stellar Inertial Guidance project which was originally undertaken as part of the M/MRBM development program, $1 million will be needed in FY 1966. This technology will subsequently be picked up in the Advanced Space Guidance project which was initiated this year and which I discussed earlier in connection with the Defense Department's space program.

The request also includes $5 million for continued study of the various technological and operational concepts for an "Advanced ICBM". This is the land-based counterpart of the Advanced Sea-based Deterrent study which I touched on in connection with the Navy's advanced developments.

B
C

[redacted]

The FY 1966 budget includes $6 million to continue work on "Low Altitude Supersonic Vehicles". This project consists of studies, tests and investigations designed to explore the feasibility of components which could provide the technical basis for the design of a chemical-powered supersonic, low altitude vehicle.

The remaining items on the Air Force list of advanced developments are all space projects which I discussed earlier.

F. ENGINEERING DEVELOPMENT

This category includes those projects being engineered for Service use, but which have not as yet been approved for production and deployment.

1. Army

I have already discussed in considerable detail, in the section on Strategic Offensive and Defensive Forces, the first two items on the Army list. The "NIKE-ZEUS Testing" program will be completed during the current fiscal year and all further testing will be taken over by the NIKE X program. The $407 million requested for "NIKE X" will continue, on an urgent basis, the development of that new system including the multi-function phased array radar (MAR), the missile site radar (MSR), high speed data processing equipment, the ZEUS missile and the high acceleration SPRINT missile.

The $10 million requested for "Forward Area Air Defense" will be devoted to the further analysis of the forward area air defense problem created by the disappointing results of the MAULER development program (MAULER was to have been the principal weapon for the defense of forces in the field against aircraft attack). As I have already indicated, an interim program comprising CHAPARRAL (a vehicle-mounted SIDEWINDER), the self-propelled HAWK and a 20 mm. gun is now underway or planned. The $10 million requested for this project for FY 1966 will be devoted to the exploration of a longer term solution to this problem.

The $46 million requested for the "Division Support Missile (LANCE)" will substantially complete system development. LANCE is a light weight self-propelled missile system designed as an eventual replacement for HONEST JOHN and possibly LITTLE JOHN. This air-transportable missile, with a range of more than 45 miles and a CEP of about 250 yards, should have a high "kill" capability against troops, even with non-nuclear warheads. The first flight of LANCE is scheduled for February 1965. Further testing will be required before a decision can be made to place it in production

$64 million is requested in the FY 1966 budget to continue engineering development of a variety of other weapons. Included in this category is the development of the Special Purpose Individual Weapon (SPIW) as a possible replacement for the M-14 rifle and the M-79 grenade launcher. Four different experimental models have been designed, each of which can fire high velocity flechettes and high explosive (40 mm.) grenades. Another item in this category is the 107 mm. mortar being developed as a replacement for the current 4.2" mortar. The new mortar would be half the weight of the present one and would have 50 percent longer range. It could also fire a nuclear armed projectile out to a range of 5,000 meters and could therefore serve as a replacement for the DAVY CROCKETT system. Also included in this category are atomic munitions for tactical use (excluding the nuclear warheads). Current projects include projectiles for artillery and infantry support weapons and atomic demolition munitions (ADM).

The next two items, "Aircraft Suppressive Fire Systems" and "Advanced Aerial Fire Support Systems" are closely related. The former, for which $15 million is requested, is concerned with the development and adaptation of weapon sub-systems for aircraft, and it was under this program that the presently operational helicopter armament systems were developed. The latter project, for which $17 million is requested, would initiate the development of a completely integrated armed "helicopter-like" system as a replacement for the present improvised armed HU-1B system. The new vehicle would have a speed of perhaps 200 knots, advanced fire control and

avionics systems and would be designed to use such weapons as a new "high rate of fire" machine gun, and the TOW and SHILLELAGH anti-tank missiles.

The $2 million requested for Tactical Transport Aircraft is to complete development of the CV-7 (BUFFALO). This airplane is being developed jointly by the U.S. and Canada for Army use. It can carry about 55 percent more than the CARIBOU I and is about 25 percent faster. Four prototype aircraft will be delivered to the U.S. Army for testing early this year. No decision has yet been made to produce and deploy this aircraft since the entire problem of Army air mobility is still under study.

The $18 million requested for "Combat Surveillance and Target Acquisition" includes a number of different projects: ground radar for detection of moving vehicles and personnel; sound and flash ranging equipment for locating hostile weapons; image interpretation and photo processing equipment; and an unmanned aerial surveillance system. This last project, for which $6 million is included in the FY 1966 budget, is designed to provide an aerial combat surveillance and target acquisition capability when weather or enemy air defenses restrict manned aircraft flights.

The $25 million requested for "Communications and Electronics" will finance the development of tactical radios, automatic electronic switchboards and air traffic control systems.

The next two items were discussed briefly in connection with the Army's General Purpose Forces. The $17 million requested for the "Heavy Anti-Tank Missile (TOW)" for FY 1966 should substantially complete the funding of this development. The $22 million in FY 1966 shown for the "Main Battle Tank" will provide for: the U.S. share of the tank component development costs covered by the joint U.S.-FRG tank development cost sharing agreement ($18 million); the project management costs for the Main Battle Tank development which are not covered by the agreement (about $2 million); and the development costs for the SHILLELAGH turret for the M-60, mentioned earlier in the discussion of the Army's procurement program for FY 1966 ($2 million).

2. Navy

The first five items on the Navy's list of engineering developments are all associated with undersea warfare and, in total, amount to $65 million in FY 1966.

As I noted earlier, the SEA HAWK project has been reoriented to concentrate on the four basic sub-systems and has therefore been dropped

from the engineering development category. The next item, $4 million for "ASW Ship Command and Control System," is the fourth of these subsystems. This development will continue modification of computer and display equipment and computer programs developed under the Navy Tactical Data System program. It is planned to use the USQ-20B computer which will give faster input/output capabilities than that of the present version (USQ-20A). Three prototype systems will be developed, one to be tested on land, another aboard an ASW carrier and the third aboard an escort ship.

The largest single item in this category is the $43 million requested to continue development of the "MK-48 Torpedo." As I indicated earlier in my discussion of the Navy General Purpose Forces, [redacted]

The FY 1966 budget includes $4 million for "ASW Rockets." This project is directed to the development of a rocket-boosted ballistic flight missile which will be compatible with the ASROC launcher and fire control system and which will increase the effective range from about 10,000 yards to 18,000 yards. Project definition is planned for FY 1966 and introduction into the fleet for about 1970 or 1971.

[redacted]

The $16 million requested in FY 1966 for "Marine Corps Developments" includes: an amphibious assault personnel carrier capable of transporting infantry weapons and supplies through very rough surf in the assault phase of an amphibious operation; a landing force amphibious support vehicle for rapid movement of supplies and equipment from ship to shore and over land; and light weight, helicopter-transportable, high performance ground radars.

The regenerative turbo prop engine development for ASW aircraft, which was described in this section last year under the heading

"Aircraft Engines," is to be shelved following completion of the hardware, without going on to pre-flight test rating. Further study has convinced us that it is unlikely that this engine will be retrofitted into existing aircraft or installed in a new aircraft during the next decade.

The last item, "Special Warfare Navy Aircraft," is the new light armed reconnaissance airplane (LARA), designed primarily as a combination weapons delivery-logistics, primitive area STOL air support vehicle for counterinsurgency operations. A contract was awarded last October for seven prototype aircraft. The first flight is expected by the end of this year and an extensive operation evaluation will follow. The total cost of the program is estimated at $18 million to be completed with the $6 million requested for FY 1966.

3. Air Force

I have already discussed most of the Air Force engineering developments in connection with other programs.

The $25 million shown for the "XB-70" in FY 1966 will complete the funding of that project, for a total development cost of $1,483 million. This is slightly below our target of $1,500 million but it should be noted that the third test aircraft had to be eliminated from the program. The first completed XB-70 was flown in September 1964. Three more flights were made in October and the fifth is scheduled for January 1965. The second vehicle is expected to be completed in April of this year with the first flight scheduled for July. The currently approved two vehicle program provides for 180 hours of flight test which we believe will be adequate to "de-bug" the aircraft and to determine its basic aerodynamic structure and performance characteristics. Only five hours have thus far been accumulated on the first aircraft. After the initial flight test program is completed there may be other exploratory test programs in which the XB-70 could be used, for example, in connection with supersonic transports or general aeronautics research in such areas as general handling qualities of large supersonic aircraft, sonic boom measurements, etc.

The next item, "Advanced Manned Aircraft," encompasses studies on the airframe, the development of advanced avionics and design and demonstration of the new power plant required by advanced aircraft, including strategic bombers. Last year the Congress appropriated a total of $52 million for the development of an advanced strategic manned aircraft. As shown on the Table, $28 million of these funds will be used in FY 1965 and the remaining $24 million in FY 1966, leaving $15 million in new obligational authority needed next year.

The development of a new "Short Range Attack Missile," which could be used with the B-52 as well as with a new strategic and other advanced aircraft, is shown as a separate item on the next line. To begin development of the missile this year, $5 million of FY 1965 funds were reprogramed to this project and $37 million more is requested for FY 1966 to continue this work.

The fourth item on the Air Force list is the "YF-12A" for which $28 million is requested for FY 1966. Of this amount, $5 million will be used to continue work to improve the ASG-18/AIM-47A fire control and air-to-air missile systems, already installed in the YF-12A. As shown on the Table on the next line, these systems were developed in prior years.

For continued development of "Advanced Ballistic Missile Re-entry Systems," we are requesting $168 million in FY 1966. This effort includes a wide variety of techniques designed to improve the capabilities of our strategic missiles to penetrate anti-missile defenses as well as to improve their accuracy and overall weapon system effectiveness. These advanced re-entry development programs require substantial numbers of flight tests and, for this purpose, we are using ATLAS missiles, which are being phased out of the operational force, at a considerable saving in the total cost of this program.

For "NIKE/ZEUS Targets" to support the NIKE X development program, $9 million is requested for FY 1966. These target systems are developed and fabricated to Army requirements and are delivered by ATLAS boosters launched into the Kwajalein area from Vandenberg Air Force Base.

I have already discussed the next item, "TITAN IIIA and IIIC."

No additional funds are being requested for the last item, the "M/MRBM," which is being dropped from the development program since the Congress did not see fit to support the project.

G. MANAGEMENT AND SUPPORT

1. Army

As shown on Table 20, $88 million is requested for the support of White Sands Missile Range, one of the national ranges used by all Government agencies. Test programs conducted at White Sands include those for REDEYE, NIKE X, LANCE, PERSHING and advanced re-entry systems, as well as certain safety devices for the NASA APOLLO program. Work will also be conducted on the development of improved cameras, telescopes

and other optical and electronic range instrumentation equipment for use at all national missile ranges.

At the beginning of the current fiscal year, the Army assumed full responsibility for the Kwajalein Test Site, providing essentially the same range support as previously provided by the Navy. The need to create an ICBM impact corridor across the Kwajalein Lagoon for NIKE X and ICBM testing has required the relocation of the natives living in the corridor to the Island of Ebeye. This project will require about $6 million in FY 1966, the principal reason for the increase over FY 1965.

The $199 million requested for General Support covers the costs of all Army R&D installations and activities other than White Sands and Kwajalein. This support includes equipment procurement for research laboratories, test facilities and proving grounds, the cost of civilian and military salaries, and the construction of new facilities.

2. Navy

The Pacific Missile Range with headquarters at Point Mugu, California, is responsible for range scheduling, communications, weather and meteorological services and data reduction in support of all sea-based missile and space launch operations in the Pacific. Facilities located at Barking Sands and Kaneohe in the Hawaiian area provide communications and range instrumentation. The FY 1966 request of $77 million is $46 million less than currently programed for FY 1965, principally because of the planned transfer of the Point Arguello and Point Pillar facilities in California to the Air Force. Among the test programs supported by the Pacific Missile Range are those for TERRIER, TARTAR and TALOS, the new Standardized Ship-to-Air Missile and the PHOENIX air-to-air missile.

The Atlantic Undersea Test Evaluation Center (AUTEC) will have three underwater test ranges sited in a deep sea canyon off the Bahamas, designed to test weapons, sonars, and acoustics systems. The $8 million request for FY 1966 is $11 million less than the current FY 1965 program, primarily because of lower construction requirements next year.

For the General Support of all other Navy R&D laboratories and test facilities, $210 million is requested for FY 1966.

3. Air Force

For the Eastern Test Range, formerly known as the Atlantic Missile Range, $221 million is requested in FY 1966, about the same as the current fiscal year. This range consists of a complex of instrumented

networks including fixed and mobile land-based stations and airborne and shipborne instrumentation extending from Cape Kennedy south-eastward through the mid- and south Atlantic area, South America and Africa to the Indian Ocean. The Eastern Test Range supports such Defense programs as MINUTEMAN, POLARIS, START (Spacecraft Technology and Advanced Re-entry Tests) and ASSET (an unmanned re-entry vehicle) together with such NASA programs as GEMINI, APOLLO, DELTA, CENTAUR, RANGER and MARINER. Future test activities will involve greater accuracies, larger payloads and more complex re-entry vehicles as well as more sophisticated missions. To meet these more demanding requirements, the funds included in the FY 1966 request will provide a capability for covering different launch azimuths, including a capability to assist the Western Test Range in tracking polar-orbiting satellites. The program will also provide for improved ship and aircraft instrumentation to facilitate the search and rescue activities associated with the manned space flight programs.

The Air Force's Western Test Range (AFWTR) consists of a complex of range instrumentation networks supporting Air Force, Navy and NASA launches from Vandenberg Air Force Base, Point Arguello and Point Mugu. The transfer of responsibility for land-based missile and space launch operations from the Navy will be completed by the end of the current fiscal year and therefore the $62 million required for FY 1966 is included in the Air Force request.

General Support, including "Development Support," will require $645 million in FY 1966. This item carries the major support of the Air Force Systems Command and its nation-wide complex of research, development, and test installations, the construction of additional research and development facilities, and other support programs. It includes about $88 million for the cost of services provided under contract by organizations such as RAND, Aerospace Corporation, and the Lincoln Laboratories.

4. Defense Supply Agency

The Defense Documentation Center which acquires, stores and disseminates scientific and technical documents to the defense community, will require $12 million in FY 1966, about the same as the current fiscal year.

H. EMERGENCY FUND

As previously mentioned, we are requesting the appropriation of $150 million and transfer authority of the same amount for the Department of Defense Emergency Fund.

I. FINANCIAL SUMMARY

The Research and Development Program, including the development of systems approved for deployment, will require $6.7 billion in New Obligational Authority for FY 1966. A comparison with prior years is shown below:

	($ Billions, Fiscal Years)				
	1962 Actual	1963 Actual	1964 Actual	1965 Est.	1966 Proposed
R&D - except systems approved for deployment	4.2	5.1	5.3	5.1	5.4
R&D - systems approved for deployment	2.6	2.5	2.3	1.9	1.9
Total R&D	6.8	7.6	7.6	7.0	7.3
Less: Support from other appropriations	-0.5	-0.5	-0.5	-0.4	-0.5
Total R&D (TOA)	6.3	7.1	7.1	6.6	6.8
Less: Financing Adjustments	-0.9	-0.1	-0.1	-0.1	-0.1
Total R&D (NOA)	5.4	7.0	7.0	6.5	6.7

VII. GENERAL SUPPORT

General Support constitutes the "all other" or residual category and includes all costs not capable of being directly or meaningfully allocated to the other major programs. Because of the large number and wide variety of the functions encompassed, this major program is best discussed in terms of its constituent parts.

For purposes of convenience, the various elements of the General Support Program have been divided into ten broad groupings: individual training and education; intelligence and security; communications; logistics support; military family housing; medical services; headquarters and support services; the National Military Command System; the Defense Atomic Support Program; and miscellaneous Department-wide activities. These broad groupings are themselves further broken down into more specific categories or functions, a selected list of which is shown on Table 21.

Much of the General Support Program represents "fixed charges." But, wherever we had some discretion, we eliminated marginal items and activities.

The following highlights some of the important trends.

A. INDIVIDUAL TRAINING AND EDUCATION

This portion of the General Support Program includes the cost of equipment, base support, construction, instructors, students and travel directly related to recruit, technical, professional, and flight training, as well as support of the Service academies.

1. Recruit Training

Included here are the basic training programs for new recruits and inductees, and certain advanced individual training courses for Army personnel conducted in recruit training centers.

About two-thirds of the overall cost of recruit training is borne by the Army, chiefly because of higher Army enlisted personnel turnover rates stemming from the use of the draft and support of a larger Reserve Enlistment Program. Also, the recruit training cycles of the Army and Marine Corps are longer and more costly since these Services provide more weapons instruction than the other Services. Training loads and costs for active forces personnel will be higher in FY 1966 than in FY 1965 chiefly because of a relatively high turnover (a cyclical phenomenon) as well as some increases in Navy and Marine Corps military strength.

In FY 1966 the Army plans to change its concept of scheduling the training of recruits so as to ensure that replacements are trained and ready to join their units at the same time as their predecessors actually leave, thereby assuring that unit readiness is maintained at all times. The Army will attempt to plan its program so as to maintain a level "trained" strength, and inputs will be adjusted accordingly. The number of inductees needed by the Army for FY 1966 is estimated at 111,000, about 22,000 more than FY 1965.

2. Special Training and Enlistment Program (STEP)

We also propose to implement a Special Training and Enlistment Program for individuals who desire to enlist in the Army but who fail to qualify because of minor educational or physical deficiencies. These men will be put through an initial specialized training program and those who can be raised to the regular mental and physical standards will be transferred to a normal duty assignment for the balance of a three-year enlistment. We hope this program will qualify a high percentage of the trainees for continued Regular Army service, thus replacing an equivalent number of draftees. It should also provide useful information for our current study of future military manpower policies including the role of the draft.

Tentatively, we plan to enlist 60,000 volunteers in this program over a four-year period with the first group of 250 trainees scheduled to start specialized training in the spring of 1965. We have already transmitted to the apporpriate Congressional committees our request to reprogram $7.4 million of available funds to start this program in FY 1965 and $30.1 million will be required in FY 1966 to continue it. A trainee strength of 3,750 is planned for end FY 1965 and 8,000 for end FY 1966. The funds shown on Table 21 include the cost of military and civilian staffs and the necessary supplies and equipment, as well as the pay and allowances of the trainees.

3. Technical Training

Included here are the costs associated with the development of the hundreds of specialized skills required by our military personnel, other than flight training or professional-level courses. In addition to the costs of operating technical training schools and related training equipment procurement and construction costs, the figures shown on Table 21 also include the pay and allowances for the active-duty personnel assigned to these schools for training.

A large majority of the one-half million new personnel who enter military service each year require an initial period of formal

technical schooling before they can be assigned for duty to an operating unit. In addition, advanced or specialized training must be provided to many of our career personnel to train them in new equipment or procedures and to qualify them for higher levels of responsibility.

A major portion of this training is concentrated in those specialties associated with operation and maintenance of electronics and missile guidance equipment, and other advanced weapons systems. In spite of the relatively inflexible nature of much of these costs, there are opportunities for improved effectiveness without compromising quality. For example, a recomputation of Air Force technical training requirements last year resulted in a reduction of 4,300 spaces in FY 1966, with a total cost savings of $19.2 million. For the future, we are studying such areas as the balance between on-the-job training and school training and the feasibility of condensed electronics courses.

I mentioned last year that in order to reduce the expensive turnover of highly trained specialists, we had revised the system of proficiency payments to concentrate them in the most costly specialties. Under this plan, we are providing selective increases in the rates of proficiency pay in the Army, Navy and Marine Corps, raising them from $30 to $60 per month to $50, $75 and $100 per month. The Air Force, because of its more favorable overall career ratio is, for the present, retaining the lower rates. In order to help us evaluate the effectiveness of these higher rates over a long enough period, we propose to hold the FY 1966 proficiency pay program at virtually the current year's level. By this time next year, we should know a good deal more about the real value of proficiency pay.

4. Professional Training

Professional training encompasses primarily college and post-graduate level instruction and includes the joint Service colleges, staff schools, post-graduate schools, officer candidate schools, and the education of military personnel at civilian colleges and universities.

The requirement for personnel with a scientific or engineering background is rising every year. For example, the Air Force estimates that within the next ten years as many as 22,000 officers may have to receive professional training. One way to increase training effectiveness and reduce costs in this area is to establish joint Service schools such as those we are conducting in foreign language training and weapons systems management. For example, the Defense Language Institute teaches over 60 different languages and, in its first full year of operation, served over 6,500 students. We will continue to look for additional opportunities for this kind of joint training in the future.

5. Flight Training

The principal cost elements in this category are base operations and procurement and operation of training aircraft. Pilots are the most expensive military specialists and we have rigorously reviewed the requirements for flight training.

The Air Force's pilot training output is scheduled to increase from about 2,200 in FY 1965 to about 2,300 in FY 1966, and to about 3,100 in FY 1967 in order to provide replacements for the large numbers of pilots who entered service during World War II and who will be retiring or leaving flying status over the next few years. To minimize costs, the Air Force has modified its pilot training curricula so as to be able to absorb the increased student loads without increasing the size of the training complex.

The Army pilot training program will produce about 1,900 new pilots in FY 1965 and about 1,550 in FY 1966. Studies are now being made of the requirement for Army aviators, including a review of each position needed for command supervision and a re-evaluation of career programs with a view to more frequent aviation duty assignments for officer pilots. Meanwhile, the Army plans to use more warrant officers as pilots.

The Navy's flight training output (including pilots for the Marine Corps), will remain level at about 1,700 in FY 1966 and is tentatively scheduled to rise to 1,800 in FY 1967.

In total, we propose to procure about $116 million of flight training aircraft in FY 1966. The Navy would buy 73 TA-4E jet trainers to replace TF-9Js as well as 18 T-2B basic jet trainers. The Air Force would procure its final increment of T-38 advanced supersonic trainers in its planned replacement program for the aging T-33s. The Army would procure 70 instrument trainers -- ten fixed-wing aircraft and 60 helicopters.

6. Service Academies

In accordance with the legislation authorized by the Congress last year, we plan to increase average enrollment at the Military Academy from about 2,550 in FY 1965 to about 3,100 in FY 1968 and at the Air Force Academy from about 2,700 to 3,100 over the same period. In FY 1966, enrollments at each will rise by about 200 cadets. Naval Academy enrollment will remain at the current level of about 4,000 midshipmen.

For FY 1966, we propose a construction program for the academies of about $58.5 million -- $26.3 for the Military Academy, $17.1 for the Naval Academy and $15.1 million for the Air Force Academy. For the Military and Air Force Academies, this represents the second increment of a five-year expansion program to accommodate the larger cadet corps. The Army would build a hospital, BOQ and physical education facilities and certain utilities. The Air Force would build classrooms and a field house. The Navy would build a new science building and a central beating plant as part of a long range modernization program.

7. Headquarters and Support

Included under this heading on Table 21 are the costs of general training devices, films, publications, testing activities, correspondence schools and other miscellaneous training support activities, as well as the operating costs of the major training command headquarters of each Service.

B. INTELLIGENCE AND SECURITY

[redacted]

C. COMMUNICATIONS

The communications category includes both the Defense Communications System (DCS) and certain non-DCS communications operated by the military departments. The DCS elements include the world-wide, long-haul, owned and leased, point-to-point wire, cable and radio communications facilities. The non-DCS elements include those communications operated by the military departments which serve the subordinate commanders of unified commands or are self-contained within tactical organizations; self-contained local communications facilities; land, ship and airborne terminal facilities; and shore-to-ship, ship-to-ship, air-to-air and ground-air-ground systems.

The costs of operating and maintaining the Defense Communications System will rise to about $387 million in FY 1966, over 10 percent higher than the current fiscal year. For the most part, this increase reflects changes in our internal funding arrangements stemming from the planned expansion of the Automatic Voice Network (AUTOVON) rather

than an actual increase in costs. The AUTOVON system, which was established in April 1964 by combining existing Army and Air Force voice networks, currently includes ten switching centers. Because of our growing need for automated voice communications, we plan to expand the AUTOVON system to 26 centers by end FY 1966 and, ultimately to 78 by FY 1970, including 11 in Canada.

As these new centers become available, certain voice traffic now handled by toll calls and leased private lines which are funded as base operating costs in other parts of the program, will be transferred to AUTOVON. In addition, new AUTOVON lines will replace existing Government-owned voice circuits whose costs are currently reflected in other programs, e.g., the voice networks for SAGE/BUIC in the Continental Air & Missile Defense Program. Since AUTOVON will be managed by DCA under an industrial fund, such costs in the future will be shown in this program.

In addition, we plan to expand and modify the Automatic Digital Network (AUTODIN) so as to constitute a single Department-wide digital communications system. When it first became operational in February 1963, AUTODIN consisted of five switching centers, each with a capacity of 100-150 lines. We intend to increase the capacity of the existing five switching centers to 300 lines each and add four more switching centers to the system. When the expanded network of nine centers becomes operational in late FY 1966, we plan to phase out certain manual and semi-automated systems. Like AUTOVON, AUTODIN will be managed under an industrial fund.

The investment costs of the Defense Communications System will decline in FY 1966, in part the result of a comprehensive review of Defense communications requirements which we conducted last year.

About $700 million is included in the FY 1966 request for the major communications systems of the military departments -- STARCOM, NAVCOM and AIRCOM.

D. LOGISTICS SUPPORT

Logistics support comprises a wide variety of activities which cannot be readily allocated to other major programs or elements. Included under this heading on Table 21 are the costs of: (1) Moving cargo, freight and passengers -- except for the first destination transportation of cargo -- by commercial carriers, the Military Sea Transportation Service, the Military Air Transport Service and contract airlift; (2) Purchasing, storing, warehousing, inventory, inspection and material management functions; (3) Those parts of the industrial preparedness program (e.g., the provision of new industrial facilities

and the maintenance of idle facilities) not identified with elements of other major programs; and (4) The major overhaul and rebuild activities for items which are returned to a common stock and cannot, therefore, be related directly to specific military forces or weapon systems.

The management of our logistics support activities will be covered in the discussion of the Cost Reduction Program in Section IX of this statement.

E. MILITARY FAMILY HOUSING

A total of $748.3 million is included in the FY 1966 budget for family housing: $228.4 million for the construction of 12,500 new units; $2.6 million for the construction of trailer park facilities and the relocation of certain housing units; $19.4 million for improvements to existing public quarters; $1 million for planning; $327.2 million for operation and maintenance including the cost of units leased; and $169.6 million for payments on indebtedness and for mortgage insurance premiums.

Two years ago we presented to the Congress what we believed to be a sound program for meeting our most urgent needs for family housing -- 62,100 units over a five-year period. To this end we proposed the construction of 12,100 units for FY 1964 and 12,500 units for each of the next four years. The Congress, however, funded only 7,500 new units for FY 1964 and 8,250 units in FY 1965. We still believe that our goal of 62,100 additional family housing units is valid. Although we cannot now satisfy this requirement within the original five-year period without a crash building program, I strongly urge the Congress to support our FY 1966 request for 12,500 units. The President has stated that he wants our uniformed citizens to be first class in every respect and wants their families to know only first class lives. We feel that the provision of adequate family housing is one of the foundation stones in providing first class treatment to our armed forces.

We are also requesting an increase in our domestic leasing authority from 5,000 to 7,500 units. Each year the Congress authorizes the leasing of housing facilities where it can be shown that there is a shortage of adequate facilities at or near our military installations. Two years ago Congress reduced this leasing authority from 7,500 units to 5,000 units in order to enforce stricter standards in the use of this authority. We believe that this authority is an important adjunct

to our new construction program, filling a need where private rental housing exists but is too costly for our personnel to lease. This situation frequently occurs in some of the major metropolitan areas. Both our study and experience show that 5,000 leased units cannot meet all legitimate needs and we, therefore, request a return to the previous authorization level of 7,500 units.

In addition, we are asking for authority this year to build a limited number of representational-type quarters. Some of our senior military officers, such as the commanders of our unified and specified commands, have duty assignments in which they are called upon to act as official hosts representing the United States Government. Public quarters which provide adequate facilities for these representational duties and which reflect the prestige of the United States are needed. We propose to construct two sets of this type of quarters in FY 1966. To this end, we are requesting relief from the statutory ceiling on the amount which may be spent on individual units of public quarters.

With regard to improvements in the management of the family housing program and in the construction of new housing units, we are continuing to enjoy benefits of some of the measures I mentioned last year, e.g., a new information gathering system which has led to higher occupancy rates for family housing and a portfolio of standardized designs which have improved the quality of housing while at the same time lowering costs.

F. MEDICAL SERVICES

This category includes the costs of medical and dental services not directly associated with military units in other major programs, the costs of medical care of military dependents at non-military facilities, and activities such as the Armed Forces Institute of Pathology and veterinary services.

The major determinants of the cost of medical services are the size of the active forces, the number of military dependents, trends of medical services and equipment costs, and the medical facilities construction program. Many of these factors are beyond our direct control and operating costs of our medical program display the same rising trend as we see in the private economy.

In addition, while the active duty hospitalization rate has reached an all-time low of 6.8 per thousand, medical care for dependents and others is increasing. With no significant changes in overall workload anticipated, it is expected that the medical service personnel strength for FY 1966 will have to be kept at approximately current levels.

For FY 1966, we are proposing a medical construction program of approximately $48 million, $31 million below the current fiscal year and about $30 million below the amounts requested by the Services. These funds would provide for the replacement of about 800 bed spaces and various clinics, and for the construction of various laboratory and other facilities. In planning these facilities, we have made provision for spaces for dependents of active duty military personnel, except in a limited number of areas where we felt adequate civilian facilities exist.

The problem of providing health care in military hospitals for retired personnel and dependents of both active duty and retired personnel is an old one. We believe that an issue as complex as this, involving the potential outlay of hundreds of millions of dollars deserves exhaustive analysis. I hope that by this time next year I will be able to recommend some solution to this problem.

G. HEADQUARTERS AND SUPPORT SERVICES

This aggregation includes a number of essentially unrelated activities.

1. Headquarters

This element comprises the headquarters activities of the military departments, the unified and specified commands, the Military Assistance Advisory Groups, data processing units, fiscal and audit activities, engineering and inspection services and a wide variety of other centralized administrative and logistical activities. The scope and cost of these activities are generally related to the overall size and pace of the total Defense program. Service requests for departmental administration funds for FY 1966 were cut by $3.5 million during our budget review last fall.

2. Weather Service

This program comprises the aerial weather reconnaissance, air sampling, and weather observing and forecasting systems of the Navy and Air Force which compile and analyze meteorological and geophysical data affecting the operations of our military forces and of the Government's missile and satellite activities.

I told you last year that we planned to retire 12 obsolescent WB-50 aircraft and return five C-130Bs being used by the Air Weather

Service to the Tactical Air Command by the end of FY 1965, replacing them with ten specially modified C-135Bs. Because of a delay in this modification program, however, we now plan to retain the five C-130Bs in the Air Weather Service until the C-135Bs become operational sometime next fall. The 12 WB-50s will be phased out as scheduled by the end of FY 1965. This temporary adjustment will have no effect on our high altitude weather reconnaissance capability or our ability to meet the continuing requirement for very high altitude sampling that resulted from the test ban treaty.

3. Air Rescue/Recovery

The air rescue and recovery program of the Air Force comprises the Air Rescue Service (MATS) which at present operates and maintains seven rescue coordination centers, 12 air rescue squadrons, and 65 local base rescue detachments. The air rescue squadrons are now equipped with a total of 94 aircraft -- 30 HU-16s, 36 HC-54s and 28 HC-97s.

As you know, we believe that both the HC-54s and the HC-97s should be replaced with the specially equipped HC-130 aircraft on virtually a "one-for-one" basis. Accordingly, for FY 1964 we proposed the procurement of 30 HC-130s and planned an additional 33 of these aircraft for FY 1965. However, funds were appropriated for only 19 in FY 1964 and the Air Force was asked to restudy its total HC-130 requirement. Subsequently, I further reduced the FY 1964 HC-130 program by four aircraft -- to a total of 15.

Last year, pending completion of the HC-130 requirements study, we requested, and Congress approved, funds for 33 of these aircraft bringing the total funded to 48. The Air Force study again verified the requirement for 63 HC-130s and we are requesting funds for the remaining 15 aircraft in FY 1966.

Operating costs for FY 1966 will remain at about the current year's level of $40 million, while investment costs will be reduced by about one-half, to $45 million, reflecting the smaller procurement of HC-130s.

4. Construction Support Activities

The next item, Construction Support Activities, includes the cost of minor construction, restoration of damaged facilities, construction of access roads, advanced planning, construction design and architectural services.

[redacted]

5. DEEP FREEZE

Operation DEEP FREEZE is the U.S. scientific effort in Antarctica, sponsored by the National Science Foundation, with Navy logistic support consisting of: one radar escort ship for weather service, search and rescue, and air navigation; two icebreakers and four other ships; and one air squadron of 20 aircraft of various types. Two years ago, we decided that Defense support of Antarctica research should be funded at a stable level, consistent with national objectives. In line with that concept, $20 million is requested for FY 1966 for the Navy's portion of this project, the same amount as in FY 1964 and 1965.

6. Other Support Activities

The amounts shown on the Table for this category cover a wide variety of functions including: personnel centers; welfare and morale services; transients, patients and prisoners; disciplinary barracks; finance and audit services; the Naval Observatory; overseas dependent schools ($75.0 million); commissary stores ($94 million, including cost of military personnel); official mail; Fleet post offices; and similar activities. Also included under this heading are various classified projects.

H. NATIONAL MILITARY COMMAND SYSTEM

The National Military Command System (NMCS) is the primary component of the World-Wide Military Command and Control System. Related elements of the world-wide system that directly support the command and control functions -- i.e., the headquarters of the unified and specified commands, Service Headquarters, component commands, DASA, DIA, DCA with their supporting communications, etc., -- are included elsewhere in General Support, or as integral elements of other programs such as the Post-Attack Command and Control System in the Strategic Offensive Forces Program.

The NMCS is comprised of the following: the National Military Command Center (NMCC) at the Pentagon, the Alternate National Military Command Center (ANMCC), the National Emergency Command Post Afloat (NECPA), the National Emergency Airborne Command Post (NEACP), and the various warning and sensor and communications networks linking these command facilities, the unified and specified commands and the Service headquarters.

The NMCS was established specifically to provide the national command authorities, the President, the Secretary of Defense, the Joint Chiefs, and their authorized successors, with the means to provide strategic direction to the armed forces of the United States.

[redacted]

The survivability of this command and control capability is critical. The primary command center, the fixed alternate, and the mobile alternates are being operated as redundant facilities to obtain the necessary level of survivability. In order to perform their required functions, these facilities are linked by reliable communications, warning and sensor systems, and are continuously manned and ready for use. The NMCS relies mainly on the Defense Intelligence Agency for intelligence, the Defense Communications Agency for long-line communications and other support, and the unified and specified commands and the Services for information relative to forces, deployments, etc. The ultimate system as now envisioned will provide a standardized, highly survivable, non-interruptable command capability for a wide range of possible situations, and will provide the national authorities with a number of alternatives through which they may exercise their command responsibilities.

For FY 1966, we propose to spend about $120 million on research and development, construction, procurement and operation of the NMCS, including the cost of supporting communications among the command centers and the unified and specified commands.

[redacted]

[redacted]

I. DEFENSE ATOMIC SUPPORT AGENCY

The Defense Atomic Support Program includes the activities of the Defense Atomic Support Agency (DASA) which provides: specialized staff assistance to the Secretary of Defense and the Joint Chiefs of Staff; operational, logistical and training support for the Military Services; liaison with AEC on weapons development and the planning and conduct of weapons effects tests; and management for the national atomic weapons stockpile. The amounts shown on Table 21 also include the costs of military personnel assigned to DASA.

Most of DASA's research and development and military construction effort in FY 1966 will be in support of the safeguards related to the nuclear test ban treaty which were discussed earlier under the heading "Nuclear Testing and Test Detection" in the section on the Research and Development program.

DASA's FY 1966 program will require $151 million, of which $105 million is in support of the safeguards, compared with $158 million for the total program and $110 million for safeguards in the current year. The decrease in FY 1966 reflects the completion of funding for certain one time work associated with the maintenance of a standby nuclear atmospheric test capability. The FY 1966 DASA budget provides $40.2 million for this program, including $3.7 million in military construction funds primarily for shoreline protection at the newly dredged and filled areas of Johnston Island. DASA support of the underground testing program and the laboratory weapons effects program will increase slightly.

J. MISCELLANEOUS DEPARTMENT-WIDE ACTIVITIES

Miscellaneous Department-wide activities include: the management and staff advisory functions of the Office of the Secretary of Defense

and the Organization of the Joint Chiefs of Staff; Department-wide funding for claims, a contingency fund for military purposes controlled by the Secretary of Defense; and the troop information and education program.

1. Contingencies

For many years now, Congress has provided funds for emergencies and extraordinary expenses arising in the Department of Defense. Use of these funds is authorized by the Secretary and accounted for on his certificate and Congress is informed as to their status. In FY 1964, $10.4 million of the $15 million appropriated for this purpose was obligated, and in FY 1965 we estimate that all $15 million appropriated will be used. For FY 1966, we are again requesting $15 million.

2. Claims

These funds provide for the payment of all non-contractual claims against the Department of Defense. For FY 1965, $29 million was appropriated, of which $6.3 million was required to cover claims adjudicated in FY 1964. In anticipation of a modest rise in the cost of claims, $24 million is requested for FY 1966.

3. All Other

The Armed Forces Information and Education Program, which provides world-wide radio, television and press services, together with a program designed to promote a broad understanding among military personnel of national goals and purposes, will be continued in FY 1966 at a rate slightly below the current year, at a cost of about $9.3 million.

K. FINANCIAL SUMMARY

The General Support Program I have outlined will require Total Obligational Authority of $14.6 billion for FY 1966. A comparison with prior years is shown below:

(Fiscal Year, $ Billions)

	1962 Orig.	1962 Final	1963 Actual	1964 Actual	1965 Est.	1966 Proposed
Total Obligational Authority	11.4	12.1	13.0	13.7	14.3	14.6

VIII. RETIRED PAY

This section covers the pay, as authorized and prescribed by law, of military personnel on the retired lists and provides for payments to survivors pursuant to the Retired Serviceman's Family Protection Plan.

In FY 1966, the average number of retired military personnel is expected to rise to about 515,700, an increase of about 51,100 over the current year. As shown below, a continuation of this trend should see the average number of annuitants on the retired roles reaching 731,000, and the annual cost exceeding $2 billion, by the end of this decade.

Fiscal Year	Average No. of Retirees (Thousands)	Average Cost ($)	Total Cost ($Millions)	Unfunded "Past Service" Liability* ($Millions)
1961	275.9	2,856	788	45,432
1962	313.4	2,858	896	47,679
1963	358.8	2,828	1,015	49,862
1964	410.9	2,948	1,211	57,596
1965	464.6	2,982	1,385	61,093
1966	515.7	2,963	1,529	63,597
1967	568.0	2,949	1,675	66,028
1968	620.0	2,935	1,820	68,384
1969	682.0	2,919	1,991	70,638
1970	731.0	2,906	2,124	72,824

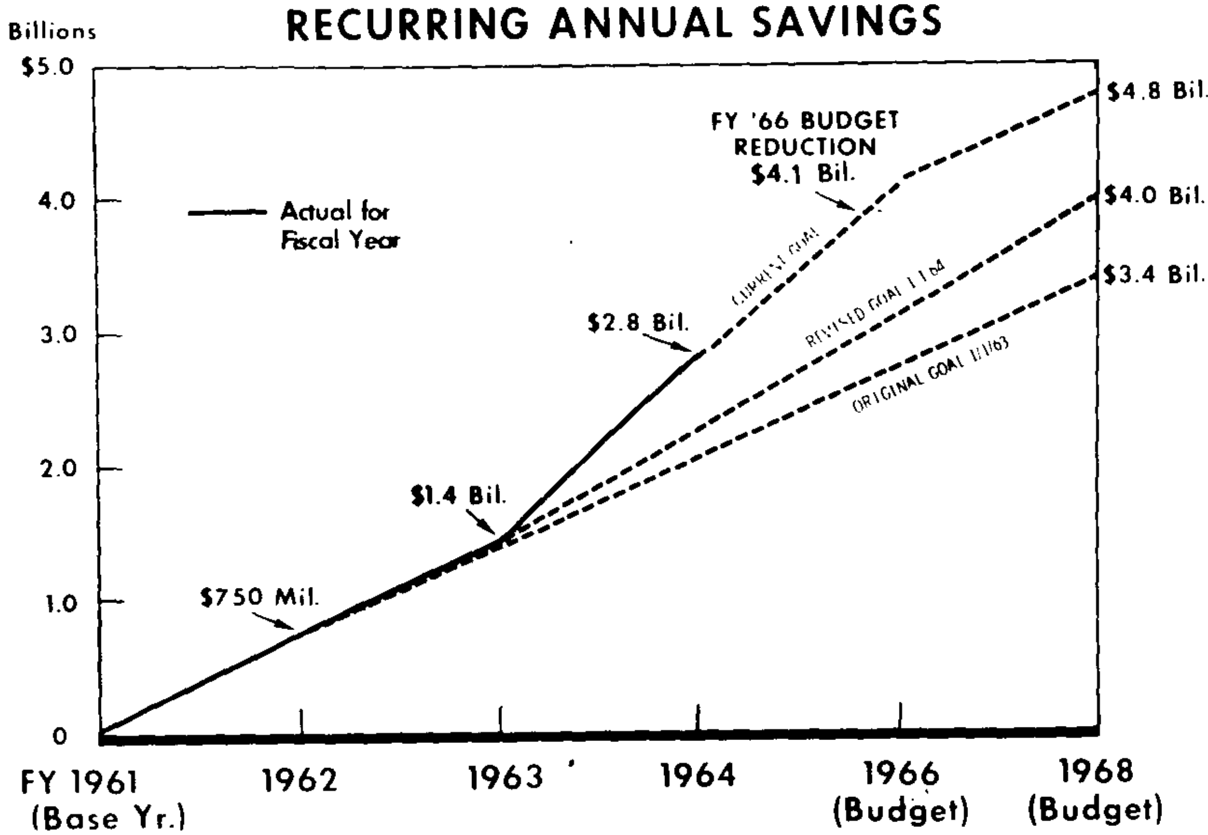
*End Fiscal Year

While total costs of retired pay will rise in the future as increasing numbers of personnel become eligible and retire, the average cost per retiree is expected to decrease (barring changes in the rate structure). The vigorous efforts made over the past decade to enhance the attractiveness of a Service career has resulted in larger numbers of enlisted personnel staying on long enough to attain retirement eligibility. And as the proportion of former enlisted men on the retired roles increases, the average cost per retiree declines.

IX. THE FIVE-YEAR COST REDUCTION PROGRAM

We are now at the half-way point in the five-year cost reduction program inaugurated on July 1, 1962. I can report that every military department and Defense agency has, for the second successive year, far exceeded its goals. As a result, we hope to be able again to raise our sights and establish a new target above the current goal of $4.8 billion of recurring annual savings when we review the program on July 1, 1965.

PROGRESS OF DoD COST REDUCTION PROGRAM
RECURRING ANNUAL SAVINGS



This achievement is a tribute to the entire Defense establishment. The top management of the Department can plan the program, establish objectives, prescribe the organization and procedures and follow up on the execution. But in the final analysis, its success depends on the skill, understanding and support of the people who must actually carry out the program.

Indeed, a program of this type can succeed only if:

(1) It is vigorously supported by the entire management of the Department, from the Secretary on down to the lowest managerial level.

(2) Firm, clearly defined goals are set for each level of management and the objectives, methods and procedures of the program are clearly explained to the people who have to achieve the goals.

(3) A uniform and effective system of progress reporting is established to ensure adequate follow-up on performance.

(4) Both the goals and the results are thoroughly audited by an independent group to ensure the savings being reported are valid and can be properly substantiated.

The Defense Department's cost reduction program has been developed with these principles in mind. Firm, time-phased goals have now been fixed for 27 distinct management areas. These goals are the aggregates of the individual goals established for each of the Services and Defense agencies. The Service goals are further subdivided down to the lowest level of logistics management so that all of our key managers know exactly what is expected of them.

Within my own office, the Assistant Secretary of Defense (Installations and Logistics) has been made directly responsible for the effective operation of the program throughout the Department. The Assistant Secretary of Defense (Comptroller) has been given responsibility for the review, examination, and validation of all goals and savings reported under the program. The Service Secretaries and agency heads have been made responsible for the accomplishment of the goals. They are required to review and approve personally the reports of progress. Within each of the military departments and the Defense Supply Agency a senior official has been given specific responsibility for the day-to-day administration of the program. And, with two and a half years of experience behind us, this program is now a reality rather than a promise.

The FY 1966 budget now before the Congress is some $4.1 billion less than it otherwise would have been because of this program. The detailed goals and accomplishments of the various programs we have established in pursuit of these objectives are shown in Table 22, but I have summarized them below:

[redacted]

	Savings Reflected in FY 1966 Budget (Billions)	Savings Goal By FY 1968 (Billions)
1. Buying only what we need..........	$2.0	$2.0
2. Buying at the lowest sound price..	1.0	1.1
3. Reducing operating costs..........	1.1	1.7
Total.....................	$4.1	$4.8

In previous appearances before this Committee, I have discussed the character of these programs in some detail. At this time, I would simply like to give you a progress report, highlight some of the savings actions of the past year, and outline some of our plans for the future.

A. BUYING ONLY WHAT WE NEED

1. Refining Requirements Calculations

Better analysis of our materiel requirements will continue to offer major opportunities for savings in the cost reduction program. Basically, this effort is aimed at pruning out of each proposed new procurement program every non-essential item. The value of such savings reflected in the FY 1966 budget totals $1.7 billion. They result from literally thousands of individual reviews made by managers at all levels to ensure that inventories of end items, spare parts and consumables are held to the absolute minimums required to meet the needs of approved forces and mobilization objectives. Some examples of these actions are:

- The Army was able to reduce scheduled procurement of M-85 machine guns when study showed that M-2 models already on hand could satisfy all 50 caliber vehicular gun needs except for the M-60 tank. Procurement quantities were reduced by 8,800 guns, at a savings of $21,120,000.

- The Navy and Air Force conducted comprehensive re-evaluations of their requirements for air-to-air and air-to-ground missiles and other non-nuclear ordnance in FY 1964. By basing these requirements on a more detailed analysis of the threat to be countered and improved measures of individual weapons effectiveness, previously planned procurements were reduced by $152 million in FY 1964. Even larger reductions are being made in FY 1965-1966.

- The Army restudied its training needs for the 7.62 mm. cartridge (used in the M-14 rifle and the M-60 machine gun) and cancelled the planned procurement of over 400 million rounds, with a savings of $30 million.

[redacted]

[redacted]

2. Increased Use of Excess Inventories

At the end of FY 1961, excess and long supply stocks held by the three military departments totaled $13.1 billion. In that year, only $956 million of such stocks had been returned to productive defense uses. Since then, we have instituted procedures under which all new proposed procurements must be matched against these stocks to determine if a suitable excess item may not be substituted instead. The result has been a steadily increasing substitution of excess stocks for new procurements as shown below:

Fiscal Year	Value of Excess Stocks Returned to Productive Use (Millions)	Increase Over FY 1961 (Millions)
1961	$ 956	$ -
1962	1,080	124
1963	1,120	164
1964	1,287	331

Some recent examples of the reutilization of excess:

- The Army received 60 excess aircraft engines from the Air Force for use on its CARIBOU aircraft, saving $2,010,000
- The Marine Corps received over 87,000 excess 3.5 inch rockets from the Army for use in training and to fill mobilization needs, saving $1,045,000
- The Air Force received 15 million rounds of excess 20 mm. ammunition from the Navy to meet valid operational requirements, saving $30,900,000

3. Eliminating Goldplating Through Value Engineering

We cannot afford to buy qualitative features in our weapons, equipment and supplies which are not essential to meet the standards of performance, reliability and durability required by the military mission. Last year, we estimated that, by "purifying" our specifications to eliminate "frills" or "goldplating" and by employing greater ingenuity in seeking out less costly materials and designs, we could eventually save $145 million annually. That estimate has proved to be far too conservative; in fact, actions initiated through FY 1964 alone will ultimately save $224 million in the cost of Defense hardware -- half again more than last year's goal.

[redacted]

Looking ahead, we are now convinced that savings of $500 million annually will ultimately be attainable through "value engineering" techniques. This improved outlook stems in great part from the excellent assistance we are now receiving from industry in challenging unnecessary quality features in our procurement specifications and in seeking out more economical ways to do the job. Last year, 580 cost savings of this type were proposed by our principal defense contractors, and we expect this number to increase significantly in the future.

Some examples of recent savings achieved by eliminating "gold-plating" are:

	Unit Cost		
	Before Redesign	After Redesign	Savings on Current Procurement
<u>M449 Projectile</u>			
Eliminated components, simplified manufacturing and assembly processes	$116	$71	$4,480,800
<u>Xenon Searchlights</u>			
Redesigned the reflectors to eliminate the excessive supporting members	1,757	465	1,476,600
<u>Container for LANCE Missile Propulsion System</u>			
Substituted light-weight design made of fibreglass and aluminum for a bulky steel container...	2,732	869	174,400
<u>Tilting Tailpipe for A-6A Aircraft</u>			
Eliminated as non-essential after analyzing operational experience. Weight reduced 154 lbs. per aircraft	31,911	0	765,864

4. Inventory Item Reduction

During the past year, we have also re-emphasized the standardization of material within and among the Military Departments -- in order to reduce the varieties, sizes and types of items in use. To oversee this effort, a new staff organization, the "Office of Technical Logistics Data and Standardization Policy", has been established. During FY 1964, some 2,450 specifications and 583,000 individual items were eliminated.

Actions taken since FY 1961 have cut supply management costs by $61 million annually.

B. BUYING AT THE LOWEST SOUND PRICE

During the past four years, we have devoted much attention to strengthening the policies and practices governing the ten million purchase actions made annually by the Department of Defense. As a result, we believe that most of the steps needed to realize the savings potential in this area of the five-year cost reduction program have now been initiated. To date, these actions have resulted in a marked increase in competitive procurement and the elimination of cost-plus-fixed-fee (CPFF) contracts in all but those few cases where it is generally agreed that this is the most suitable type. Procurement savings stemming from these measures will amount to over $1 billion in FY 1966 and future years, as shown on Table 22.

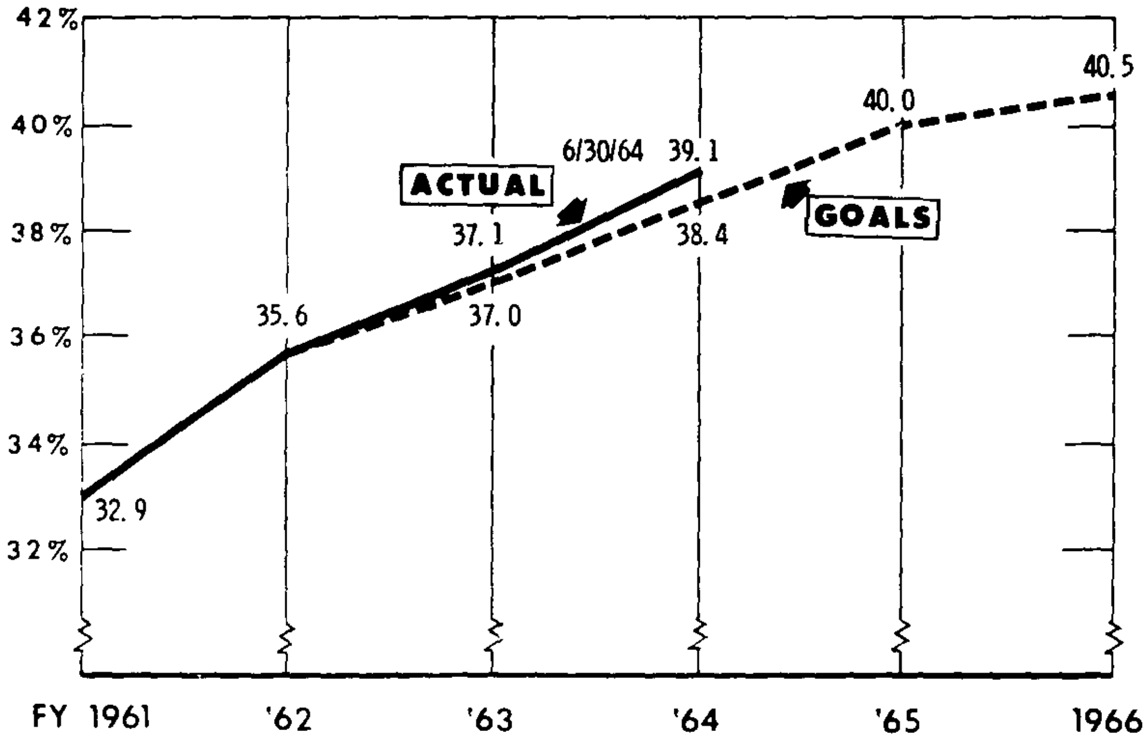
1. Shifting from Non-competitive to Competitive Procurement

Early in 1961, we began a detailed analysis of Defense purchasing practices to determine whether more of our procurements could not be made on the basis of free and open competition, with award to the lowest responsible, responsive bidder. From this analysis, we found significant opportunities to increase competitive buying and we have pursued them energetically.

In FY 1961, 32.9 percent of the value of our contracts were awarded on the basis of price competition. However, our analysis of this performance showed that with better planning by our more than 800 design, engineering and requirements staffs, this rate could and should be raised to about 40 percent. In FY 1964, the rate had been raised to 39.1 percent and we now expect to reach 40.0 percent by the end of this fiscal year and 40.5 percent by end FY 1966, as shown below.

[redacted]

CONTRACTS AWARDED ON BASIS OF COMPETITION AS A PERCENT OF TOTAL CONTRACT AWARDS



In reaching our objective we will have shifted more than $1.7 billion of our annual procurement program from non-competitive to competitive type contracts at an average savings of 25 cents for each dollar shifted. As a result of this shift, anticipated savings of $414 million have been reflected in the FY 1966 budget request. Some recent examples of the savings achieved are shown below:

[redacted]

Item	Non-Competitive Unit Price	Competitive Unit Price	Percent Reduction	Total Savings
Anti-exposure Coverall	$ 358.80	$ 171.12	52	$ 91,340
Helicopter Armament Subsystem	19,471.00	10,218.00	47	2,165,337
Electronics Assembly (Polaris Guidance)	48,287.00	37,127.00	23	4,924,466
Gimbal Assembly (Polaris Guidance)	77,834.00	47,168.00	39	13,696,015
Radio Receiver-Transmitter (AN/ARC-51)	4,670.00	3,207.00	31	1,958,712
Target Control System (AN/SRW-4B)	44,804.00	31,619.00	29	265,787
Test Set, Target Control System (AN/SRM-2)	34,973.00	23,746.00	32	44,909
Radio Transmitter-Receiver (AN/SRC-20)	12,375.00	9,025.00	27	556,100
Submarine Antenna (AT-317)	2,327.00	1,759.00	24	67,175
Accessory Kits (MK 706/PRC-41)	1,344.44	878.32	35	151,022
Signal Comparator (CM-122)	36,000.00	26,550.00	26	340,200

We believe that there are only a few remaining commodity areas in which we can expect to achieve significant further increases in the degree of price competition. These include:(1) a few additional military end items for which detailed specifications are available, such as ships, tanks, guns, and electronic equipment; (2) spare parts; and (3) services for the maintenance and repair of equipment and facilities. We will be concentrating our energies in these areas in the coming months.

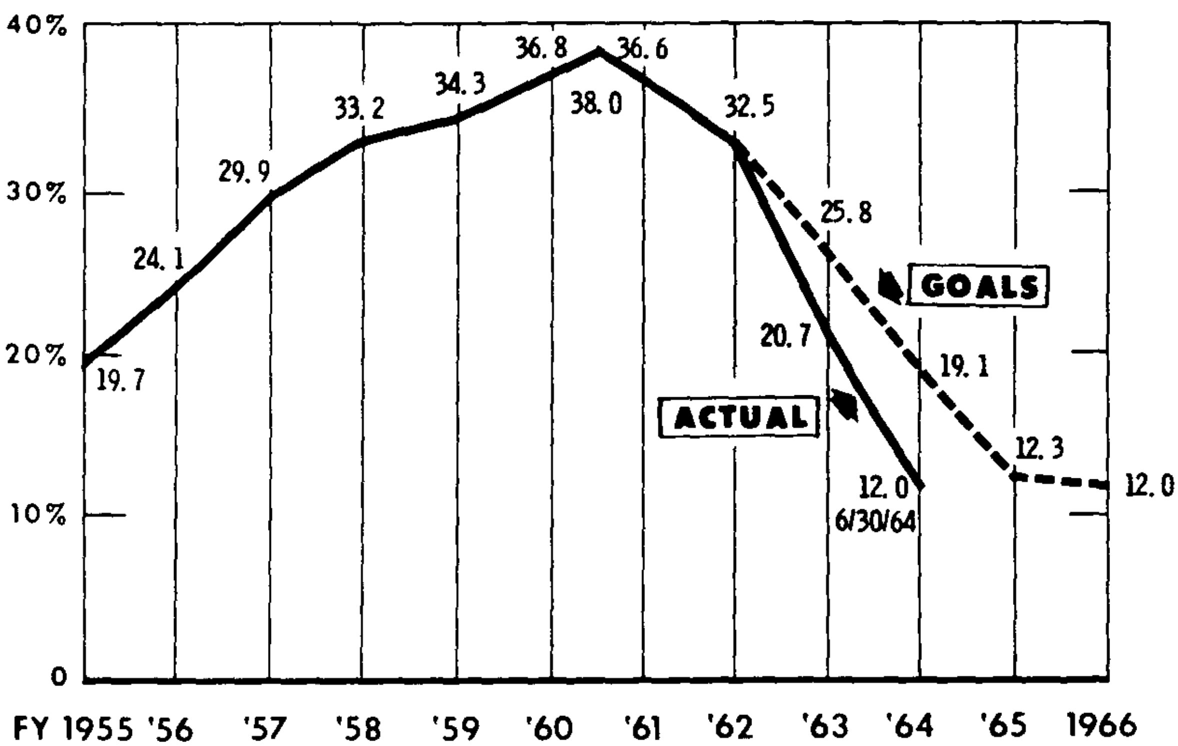
2. Shifting from Cost-Plus-Fixed-Fee (CPFF) to Fixed Price and Incentive Contracts

When we use CPFF contracts, the contractor is fully reimbursed for all allowable costs and in addition is guaranteed a fixed fee as profit. This type of contract places all of the risk on the Government, and provides equal reward for both good and poor contractor performance. In addition, movement away from CPFF contracts forces our military buying agencies to prepare much more precise work statements for our contractors and contract costs to be controlled much more closely -- as a result, cost overruns and schedule slippages are minimized, while at the same time higher performance and better reliability are achieved.

CPFF contracts are the least efficient method of contracting and should be used only where no other form of contract is suitable, e.g., in exploratory research or study projects where no meaningful measure of performance can be established in advance. We estimate that for every dollar we can shift from CPFF to the higher risk arrangements of incentive and fixed price contracts, we save at least ten cents.

In FY 1962, we set a goal of reducing the proportion of CPFF contracts from the peak of 38.0 percent reached in March 1961 to a level of 12.3 percent by FY 1965. As you can see on the chart below, this objective has been met ahead of schedule, and our FY 1966 budget request is $599 million less than it would have been had no reduction been made in the proportion of CPFF contracts.

COST PLUS FIXED FEE CONTRACTS
AS A PERCENT OF TOTAL CONTRACT AWARDS



Several other measures are contributing to improved weapon systems contracting:

- Letter Contracts, which foster loose management by both the Government and its contractors, reached a peak of $3.1 billion in December 1962, dropped to a low of $638 million in September 1964, and are still declining under the tight controls now being applied by all procurement offices.

- A similar program of administrative controls has been launched to hold down the number and value of "unpriced" Change Orders with the goal of reducing them by at least ten percent.

- The performance of major contractors in meeting their contractual commitments, and in achieving cost reductions, is now being centrally recorded. Defense Department purchasing offices are required to evaluate this record prior to selecting contractors for new development projects and prior to negotiating fees on non-competitive contracts.

- As contractors assume a larger share of the cost risk through incentive and fixed-price arrangements, we are relaxing a number of detailed reports and controls (such as prior approval of overtime) which are necessary under CPFF arrangements. These actions will save administrative costs both for Government and for industry.

C. REDUCING OPERATING COSTS

The third objective of the cost reduction program is to increase the efficiency of our various supply, maintenance, communications, transportation, and other support activities. In total, our goal in this area is to achieve annual savings of $1.7 billion by FY 1968. During FY 1964, we actually realized savings of $757 million and the FY 1966 budget estimate is $1,067 million less as a result of the following actions.

1. Terminating Unnecessary Operations

When I first appeared before this Committee in the spring of 1961 with the initial set of President Kennedy's amendments to the FY 1962 Defense budget, I pointed out:

"Technological progress causes obsolescence not only in weapon systems, but also in the often highly specialized facilities constructed for their deployment and maintenance. Just as we continually measure our weapon system development and procurement programs against the ever changing yardstick of military need, so too must we review our world-wide complex of installations in light of our present and future requirements. Facilities and installations which fail this test of true need only encumber the national security effort and waste resources."

Since then we have been continually reviewing the approximately 6,700 separately identifiable Defense installations and activities throughout the world. The original list of 73 closure actions, which I announced at that time, has now grown to 669, and the recurring annual saving from $220 million to over $1 billion, after deducting all one-time closing and relocation costs. The present status of the program is shown below:

. Number of actions to close or reduce...	669
. Real estate released..................	1,480,267 acres
. Industrial plants with commercial potential made available for sale....	65
. Positions eliminated..................	149,881 jobs
. Recurring annual savings..............	$1,038 million

These results have been achieved through a systematic evaluation of each category of installations by a full-time staff in the Office of the Assistant Secretary of Defense (Installations and Logistics), assisted by similar staffs in each of the military departments. Among the functional systems studied were the Defense Supply Agency's supply and distribution facilities; the record centers of all of the Services; the military ocean terminals; the Naval shipyards; the Air Force supply and maintenance depots; the Strategic Air Command base structure, etc. In each case, the facilities excess to requirements were identified and placed on the closure list.

We know that in some cases these actions produce temporary hardships for individual employees and local communities, and I described

in the first section of this statement the many actions the Department of Defense and the Government as a whole have taken to assist them. But, we now have extensive evidence that when obsolete or surplus military facilities are made available for long term civilian uses, they are frequently of even greater economic benefit to the communities immediately concerned. Together with the General Services Administration, we have made an analysis of what has happened to the military properties released since 1961. The results of this analysis clearly demonstrate the wide range of productive civilian uses to which these facilities can be put.

New Use	Locations	States	Acres
Other Federal Agencies	29	21	23,101
Civic Airports	18	10	5,763
Schools and Universities	54	28	7,655
Public Domain	6	3	627,785
Parks, Recreation, Community Development	66	28	35,407
Private Industry for Production	22	10	6,218
Individuals & Small Companies	55	30	26,550

Altogether, communities in 44 different states have been beneficiaries of these disposals, and the return to the U.S. Treasury has been over $84 million. Some of the most interesting cases involve the use of former military facilities by private industry. For example:

- The Navy Ordnance Plant at York, Pennsylvania, employing some 1100 workers was due to be closed in 1965. Instead, the plant and its equipment were sold for $9.6 million to a private company which promptly rehired the entire work force and has since increased employment by 60 percent.

- The Army's Signal Depot facilities at Decatur, Illinois were sold to private interests. Today, its new owners employ half again as many civilians as did the Army and they are still adding workers.

- The former SNARK missile base at Presque Isle, Maine was closed in June 1961 with the loss of 1200 military and civilian jobs. Today, the old base is a part of an industrial complex which has added 2,000 jobs. The base itself has provided educational, commercial aviation, local government and industrial facilities.

The list of base closings announced late last year is one of the largest such actions we have taken thus far. Although totaling only 95 (80 in the United States), they have virtually doubled the number of military and civilian positions eliminated as well as the ultimate level of recurring annual savings. In fact, about 146,000 military and civilian personnel will be dislocated by these closings. About 83,000 of the jobs will be moved to other locations but the remaining 63,000 positions will be eliminated. The civilian career employees holding such positions, as I noted earlier, will be offered a job opportunity elsewhere in the Defense establishment and where moving costs are involved, they will be paid by the Government.

Included in this list of 95 closures are some very large facilities: Brookley AFB at Mobile, Alabama, with more than 13,000 military and civilian jobs; the Air Materiel Area of Norton AFB at San Bernardino, California, with about 8,500 jobs; Hunter AFB at Savannah, Georgia, with about 5,800; Schilling AFB at Salina, Kansas, with 5,400; Lincoln AFB at Lincoln, Nebraska, with 6,800 jobs; Portsmouth Naval Shipyard in New Hampshire, with 7,600 jobs; the New York Naval Shipyard, with about 9,800 jobs; and Amarillo AFB at Amarillo, Texas, with about 7,100 jobs. Because of the magnitude of some of these installation closings, their activities will be phased out over a period of years. In the case of the Portsmouth Naval Shipyard, which is the principal employer in the Portsmouth area, the phaseout will be extended over a ten year period.

Although many more jobs are involved in the realignment of the SAC base structure and the Air Force major depot system, the decision to close two Naval shipyards has attracted the greatest attention. These are both very large installations but it has been recognized for many years that the Navy has too many shipyards for the workloads that can be anticipated over the next ten years, in peace or in war. The eleven yards are now working at about 63 percent of optimum capacity and by 1967 would have been down to 53 percent. Utilization of the private shipyards has recently been estimated at between 40 and 55 percent of optimum.

Accordingly, about a year ago I appointed a special Shipyards Policy Board to study the entire Naval shipyard system and to recommend to me what action should be taken to place this system on a more efficient basis. The Board completed its work last November and made the following recommendations:

(1) The New York Naval Shipyard should be closed.

(2) The Portsmouth Naval Shipyard should be phased out by a gradual phasedown prior to 1975.

(3) The Mare Island and San Francisco Naval Shipyards should be merged immediately under a single commander.

(4) The Department of the Navy should prepare a five-year modernization program for the remaining Naval shipyards, with priority to projects offering a three-year "pay-back" due to decreased costs.

(5) The Department of the Navy should establish more precise procurement evaluation standards so as to assure that bidders receiving awards of conversion, alteration and repair work are qualified in terms of financial, management, technical and facilities capabilities. Where there are significant measurable benefits to the fleet related to the location and services provided by specific private and naval shipyards, these should be considered in deciding between work to be contracted vs. work to be performed "in-house", and in choosing among private contractors.

I have approved these recommendations. On the basis of my own review of the Board's report and my visits to the shipyards during the last year, I am fully satisfied that the selection of the yards to be closed or merged was made solely on the basis of objective operational, strategic and economic criteria, including geographic location, relative industrial capabilities, cost, etc. What I want to emphasize here is that the Department of Defense has now moved to make its shipyard complex more efficient. The Navy is presently preparing a five-year modernization plan for the yards which will be retained, the first increment of which is contained in the current year's program and the second has been included in the FY 1966 budget request. If we are to realize the benefits of this modernization, as well as the economies promised by the consolidation, the workload of the new yard complex should be planned so as to serve these objectives.

Our studies show that on the basis of "incremental costs"(as contrasted with "total costs") there is little or no advantage in contracting certain ship repair work to private yards. We believe that, at least in the short run, annual savings of $10-15 million would be possible if the proportion of conversion, alteration and repair work in public yards was raised from 65 percent to about 80 percent, thereby spreading fixed overhead costs over a larger workload. It will continue to be in the national interest to direct a portion of such work to the private yards in order to help maintain a competitive industrial base. Thus, in the future, the scheduling of any specific year's ship construction and repair program should be directed principally to achieving the most effective utilization of both Naval and

private shipyard capacity. To this end, we are requesting the elimination of the statutory "35/65" ratio for the allocation of ship repair, alteration and conversion work between privately owned and public shipyards, contained in Section 539 of the Defense Appropriation Act for 1965.

2. Consolidation and Standardization of Operations

This element of the cost reduction program comprises our efforts to eliminate unnecessary overhead and personnel expense through the consolidation of common support functions previously performed separately by the Military Departments.

a. Defense Supply Agency Operating Expense Savings: The Defense Supply Agency (DSA) was established in January 1962 to integrate the management of some 1.9 million different items of common supply. The resultant savings are indeed impressive. Operating savings alone in FY 1964 amounted to $42 million, and the FY 1966 budget request anticipates economies of $57 million. The following table illustrates some of DSA's accomplishments.

	Prior to DSA (Jan. 1962)	End FY 1965	Reduction
Items Managed (Thousands)	1,875	1,630	245(13%)
Inventory Value ($ Millions)	2,486	1,914	572(23%)
Personnel	41,039	33,168	7,871(19%)

b. Consolidation of Contract Administration Services: Last June, I directed that a single organization be established under DSA to manage the 150 field offices and 20,000 personnel concerned with the administration of Defense contracts after they are awarded, including such functions as materiel inspection, production expediting, industrial security and payment of contractor invoices. We have excluded from this consolidation only the administration of highly specialized contracts, such as those for major weapon systems, construction, shipbuilding and subsistence. The headquarters of this new organization will be operational this February, and all field units will have been integrated into DSA by June 1966. We estimate that, as a result, the administrative costs of our contractors will be reduced by $60 million annually, which will, in time, be reflected in lower procurement costs for us. Additional savings of $19 million will be realized from the elimination of 1,835 personnel spaces as previously separate contract administration offices in 29 cities are consolidated.

In a related action, we have decided to consolidate in a single organization the contract audit activities now performed by three

separate audit agencies. This move will simplify the contractor's audit relationship with the Defense establishment, establish standard policies, organization and procedures and we believe will eventually permit significant manpower savings as administrative and management functions are merged.

c. Departmental Operating Expenses: Savings in this area, estimated at $95 million in FY 1966, result from the more efficient use of electronic computers; continued reduction in the number and volume of forms, reports and paperwork; further simplification of procedures; and increased productivity of personnel.

3. Increasing Efficiency of Operations

The final category of cost reduction projects are concerned with the logistic support services of communications, transportation and maintenance. These activities annually involve about $15 billion of Defense expenditures. The FY 1966 budget anticipates savings of over $364 million as a result of our actions in these areas and our goal for FY 1968 is to achieve annual savings of well over $500 million. As a group, these activities offer a very great potential for future savings and we intend to exploit this potential intensively.

a. Improved Telecommunications Management: The FY 1966 budget request anticipates savings of $129 million through the elimination, consolidation and integration of leased lines, tariff rate reductions and more effective use of existing Defense and commercial communications services and facilities.

b. Improved Transportation and Traffic Management: The FY 1966 budget request anticipates savings of $35 million through increased use of less expensive means of passenger travel and cargo transportation, and lower cost of household goods shipments.

c. Improved Equipment Maintenance Management: The FY 1966 budget anticipates savings of $156 million from many sources including: transfer of certain types of maintenance functions from depot level to base level; reductions in the scope and frequency of inspections when experience indicates this can be done without adverse effect on readiness; increased use of an "Inspect and Repair Only as Necessary" policy; increased emphasis on improving manpower productivity at overhaul and repair shops; substitution of commercial-type vehicles for tactical vehicles wherever permitted by mission requirements; and increased use of Civil Service employees in lieu of more expensive contract technicians.

d. Improving Real Property and Housing Management: The FY 1966 budget estimate anticipates savings of $41 million as a result of such actions as: control of costs through the establishment of cost standards; higher productivity of the work forces; reductions in utility costs; and the consolidation of public works functions.

4. Military Assistance Program

Because we believe that good management is just as important in the Military Assistance Program as it is in other Defense programs, we are including that activity in our cost reduction effort with the establishment of a savings goal of about $100 million.

X. PERSONNEL STRENGTHS AND COMPENSATION

A. PERSONNEL STRENGTHS

As a result of the five year cost reduction program discussed earlier, and other actions we have taken, the overall number of military and civilian personnel will again be reduced in FY 1966.

1. Civilian Personnel Strengths

Pursuant to President Johnson's directive of a year ago to increase productivity through better personnel management, we have redoubled our effort in this area. The number of direct hire civilians employed in the military functions of the Department has been reduced from about 1,038,000 at the end of FY 1962 to about 998,000 at the end of FY 1964, some 9,000 below our estimate of a year ago. This was the first time since the beginning of the Korean War that direct hire civilian employment totaled less than a million.

We now estimate the end FY 1965 strength at about 982,500 -- approximately 7,500 below our estimate of last year for that date. During FY 1966, we intend to reduce civilian employment still further by about 19,000 to a new post-Korean War low of 964,000. The reduction is mainly attributable to base closures and consolidations and careful review of Service budget estimates and work load trends.

2. Military Personnel Strengths

Total active duty military strength planned for end FY 1966 is 2,640,000, about 16,000 less than the number planned for the end of the current fiscal year, and about 45,000 less than at end FY 1964, as shown in the table below.

	End FY 1964 (Actual)	End FY 1965 (Estimated)	End FY 1966 (Planned)
Army	972,445	963,273	953,094
Navy	667,163	674,115	684,848
Marine Corps	189,751	190,069	193,190
Air Force	855,802	828,551	809,134
Total DoD	2,685,161	2,656,008	2,640,266

Army strength will decline in FY 1966 as a result of the changes in recruit training concepts which I mentioned earlier, the realignment of the Army reserve components which will release active duty personnel from reserve training and administrative functions and the inactivation of the troop ships which I have also discussed. These

decreases will be partly offset by an increase associated with the implementation of the Special Training and Enlistment Program (STEP).

Navy strength in FY 1966 will increase somewhat as additional POLARIS submarines, frigates and destroyer escorts are commissioned. The resulting increased personnel requirements will be only partially offset by the phaseout of the radar picket ships and airborne DEW-LINE extension aircraft. Marine Corps strength will also increase next year principally because of the additional personnel needed to man the rising helicopter force.

Air Force strength will continue to decline in FY 1966 primarily as a result of the base closure actions which I announced last November, the phase out of the B-47s and KC-97s and reduced technical training requirements.

3. Selective Service

While all of our experience since the end of World War II underscores the important role of the draft in the proper manning of our armed forces, the large increase in the number of young men reaching draft age (18 years), beginning in 1965, will create a difficult problem of managing the draft in an equitable manner. For example, last year the number of men reaching age 18 was somewhat less than 1.5 million. In the current year, this number will jump by about 1/2 million and average about two million a year over the next decade. Since the annual replacement needs of the military services are expected to stay relatively stable (draft calls for FY 1965-66 should average about 100,000 per year), a declining proportion of the men eligible for the draft will actually need to be called up. With no change in draft selection policies, this trend would result in a gradual increase in the average age of induction and cause rising uncertainty among draft eligible men as to whether they would, in fact, be called.

It was for this reason that President Johnson, last April, directed the Defense Department to make a comprehensive study of the draft system and related military manpower policies. This study is now well along and we have been working with the Selective Service System and other interested agencies in exploring all aspects of this problem. All reasonable alternatives to the present system, including the possibility of meeting our requirements on an entirely voluntary basis at some time in the next decade are being explored. I plan to report on the results of this study and submit my recommendations to the President this coming April. We will then be in a position to present our findings to the Congress.

B. PERSONNEL COMPENSATION

"The first requirement for efficiency and economy in Government," President Kennedy pointed out in his initial Budget Message, "is highly competent personnel." To ensure that this requirement would be met, he proposed: a major reform in the "white collar" salary systems of the Government; an increase in the basic allowance for quarters payable to military personnel; and an up-to-date appraisal of the many elements of military compensation and their relationship to the new proposed levels of civilian compensation. This program was substantially enacted by the Congress in 1962, 1963, and 1964. The civilian pay increase has added about $600 million a year to the Defense budget. The increases in military compensation have added about $1.6 billion a year in direct costs -- roughly $300 million for basic allowances for quarters, and $1.3 billion in active duty pay -- plus an increase of almost $500 million per year in retirement liabilities. Actual payments to retired military personnel have increased by $600 million a year. In total, the annual Defense Department payroll has been increased by $2.8 billion during the last four years, as shown on Table 1.

The $2.8 billion increase in "expenditures" does not include the very substantial impact of the pay increases on the "unfunded past service costs" of the military retirement program. Unfunded costs rose from $49.9 billion on July 1, 1963 to $57.6 billion on July 1, 1964, an increase of $7.7 billion of which $5.3 billion was attributable to the 1963 pay raise. By July 1, 1965, they will rise another $3.5 billion, to $61.1 billion.

In addition, there have been other improvements in the compensation and living conditions of our military personnel. Proficiency pay, for example, amounted to about $69 million in FY 1961; it will reach $122 million in FY 1966. A major effort has been undertaken to improve the availability of Government-furnished family housing for our military personnel. The Congress authorized 7,500 units in each year FY 1963 and 1964 and 8,250 units for FY 1965. An additional 12,500 units are recommended for FY 1966.

All of these improvements in military compensation were, in our judgment, fully justified, not only to attract and retain high quality personnel in our armed forces but also to ensure them a decent standard of living. We cannot compensate the man in uniform for the unique hazards of the military profession but we can and we should see to it that he at least shares with the civilian population the rising American standard of living.

Accordingly, two years ago, we recommended to the Congress that military compensation should be kept abreast of productivity changes in our national economy, as are wages and salaries in the civilian sector. I directed the Assistant Secretary of Defense (Manpower) at that time to establish the necessary administrative procedures for an annual review of military compensation in relation to changes in the civilian economy. The Congress included a similar concept in the Postal Service and Federal Employees Salary Act of 1962. The first military pay comparability adjustment was recommended to, and enacted by, the Congress last year.

With regard to future policy, President Johnson in his FY 1966 Budget Message stated the Administration's position as follows:

> "In preparing this budget I have given close attention to the matter of Government pay.
>
> Federal pay raises in the past three years have moved us much nearer to the principle that civilian pay rates should be comparable to those in private enterprise for the same levels of work and that changes in pay and allowances of members of the uniformed services should keep pace with advances in the general economy. These policies have been firmly established after careful Congressional review. Taken together, they assure that civilian and military pay are effectively interrelated and maintained at rates which are fair to tax payers and to Federal employees.
>
> I believe, however, that it is equally essential to assure that any proposals for further pay adjustments during this calendar year accurately reflect pay developments in the economy and be compatible with our national wage and price objectives.
>
> For these reasons, I have appointed a special panel to make a prompt review of the present situation. This panel will be composed equally of distinguished public members and officers of the Executive Branch. It will report to me on April 1, 1965, after which I will make a recommendation to the Congress. Provision has been made in the 'Allowance for Contingencies' for a possible military and civilian pay increase."

[redacted]

XI. FINANCIAL SUMMARY

The programs proposed for FY 1966 including Military Assistance, Military Construction, Military Family Housing and Civil Defense, aggregate $51,739,414,000 in total obligational authority. A summary by major programs for fiscal years 1962, 1963, 1964, 1965 and 1966 is shown in Table 1.

Of the $51,739,414,000 in obligational authority required to finance the 1966 program:

. $2,448,289,000 would be obtained from prior year funds available for new programs, including balances brought forward and recoupments anticipated during the year.

. $470,000,000 would be obtained by transfer from the working capital funds of the Department of Defense in lieu of new appropriations, and

. $256,125,000 would be obtained from anticipated reimbursements which would be available to finance new programs leaving, therefore,

. $48,565,000,000 of new obligational authority, the amount requested in the President's FY 1966 budget. A detailed tabulation relating the appropriation accounts to the major program accounts, and the total obligational authority to the new obligational authority requested of the Congress in the 1966 budget, is shown on Table 24 (Comparable data for 1965 are shown on Table 23).

Provision for a number of items of proposed or possible legislation -- including military and civilian pay adjustments, Carrier Flight Deck Hazardous Duty Pay ($5,500,000), Uniform Career Management ($6,300,000) and a Cash Awards Program for Members of the Armed Forces ($6,100,000) -- is made within the Government-wide "Allowances for Contingencies."

Of the $48,565,000,000 of new obligational authority, $15,297,200,000 is requested to be authorized for appropriation under the provisions of Section 412(b) of Public Law 86-149, as amended. Of this amount: $8,738,400,000 is for procurement of aircraft, missiles, and naval vessels; and $6,558,800,000 is for all research, development, test and evaluation.

[redacted]

[redacted]

The specific amounts for each Service and each category are shown in the Bill which this Committee will consider. Tables 26 through 34 provide detailed lists supporting the authorization for FY 1966. Table 25 compares the authorization amounts requested for procurement in FY 1966, and the amounts authorized and appropriated for FY 1965.

[redacted]

[redacted]

TABLE 1 - FINANCIAL SUMMARY
(In Billions of Dollars)

	FY 61	FY 62 Orig.	FY 62 Final	FY 63	FY 64	FY 65	FY 66
Strategic Offensive Forces		7.6	9.0	8.4	7.3	5.3	4.5
Continental Air & Missile Defense Forces		2.2	2.3	2.0	2.1	1.8	1.8
General Purpose Forces		14.5	17.4	17.6	17.7	18.1	19.0
Airlift/Sealift Forces		.9	1.2	1.4	1.3	1.5	1.6
Reserve and Guard Forces		1.7	1.8	1.8	2.0	2.1	2.0
Research and Development		3.9	4.2	5.1	5.3	5.1	5.4
General Support		11.4	12.1	13.0	13.7	14.3	14.6
Retired Pay		.9	.9	1.0	1.2	1.4	1.5 a/
Military Assistance		1.8	1.8	1.6	1.2	1.2	1.3
Total Obligational Authority b/	46.1	44.9	50.7	51.9	51.9	50.9	51.7
Less Financing Adjustments	3.0	1.3	1.3	.8	.9	1.1	3.2
New Obligational Authority	43.1	43.7	49.4	51.1	50.9	49.7	48.6
Adjustment to Expenditures	+1.6	+1.0	-1.2	-1.1	+.3	-.4	+.4
Total Expenditures	44.7	44.7	48.2	50.0	51.2	49.3	49.0
TOA by Dept. and Agency							
Army	10.4	10.4	12.5	12.0	12.5	12.0	12.4
Navy	12.7	12.4	14.7	14.9	14.8	14.7	15.3
Air Force	19.9	18.5	19.7	20.6	20.3	19.4	18.9
Civil Defense			.3	.1	.1	.1	.2
Defense Agencies	.3	.4	.3	.9	1.1	1.2	1.3
Retired Pay	.8	.9	.9	1.0	1.2	1.4	1.5 a/
Defense Family Housing c/	.5	.5	.5	.7	.7	.7	.7
Military Assistance	1.5	1.8	1.8	1.6	1.2	1.2	1.3
Total b/	46.1	44.9	50.7	51.9	51.9	50.9	51.7

Memo: Increases since FY 1961 in payments to retired personnel and in rates of compensation included above:

	FY 61	FY 62 Orig.	FY 62 Final	FY 63	FY 64	FY 65	FY 66
Increased Compensation Rate:							
Military				.1	1.1	1.6	1.6
Civilian				.2	.3	.6	.6
Increased Payments to Retired Personnel	—	.1	.1	.2	.4	.6	.7
Total	—	.1	.1	.5	1.8	2.8	2.9
Unfunded Mil. Ret. Past Service Liability	45.4		47.1	49.9	57.6	61.1	63.6

a/ At current pay rates, it would require $2.2 billion in FY 1966 to fund "current service costs."

b/ Excludes cost of nuclear warheads.

c/ In 1961 and 1962 funds for this activity were appropriated to the military departments.

[redacted]

[redacted]

TABLE 2 - STRATEGIC OFFENSIVE FORCES AT END OF FISCAL YEAR

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Bombers a/										
B-52	555	615	630	630	630	600	600	600	600	600
B-58	40	80	80	80	80	80	78	76	74	72
B-EB-47	900	810	585	450	225					
Total Bombers	1495	1505	1295	1160	935	680	678	676	674	672
Air-Launched Msls										
Hound Dog	216	460	580	580	560	540	540	540	520	520
Strategic Reconnaissance										
SR-71					[redacted]					
RC-135										
RB-47	90	45	30	30	30	17	3	3	3	3
Total	90	45	30	30	32	31	38	38	38	38
Surface-Surface Msls										
Minuteman I			160	600	800	800	700	550	400	250
Minuteman II						80	300	450	600	750
Titan		21	67	108	54	54	54	54	54	54
Atlas	28	57	126	113						
Polaris	80	96	144	240	464	512	656	656	656	656
UK, Fr., &/or NATO force								26	78	150
Total ICBM/Pol.	108	174	497	1061	1318	1446	1710	1736	1788	1860
Other										
Quail	224	392	392	392	392	390	390	390	390	390
KC-135 b/	400	440	500	580	620	620	620	620	620	620
KC-97	600	580	340	240	120					
Regulus	17	17	17	7						
PACCS										
KC-135			17	18	24	24	24	24	24	24
B-47		18	36	36						
Alert Force Wpns c/										
Weapons	[redacted]									
Megatons										

[redacted]

FORMERLY RESTRICTED DATA
HANDLE AS RESTRICTED DATA IN
FOREIGN DISSEMINATION
SECTION 144b, ATOMIC ENERGY ACT 1954

[redacted]

TABLE 3 - CONTINENTAL AIR AND MISSILE DEFENSE FORCES
(Number at End of Fiscal Year)

TABLE 4 - FINANCIAL SUMMARY OF CIVIL DEFENSE
(TOA, $ in millions)

	FY 62	FY 63	FY 64	FY 65	FY 66
A. Shelter Survey	58.4	9.3	7.8	11.7	36.3
B. Shelter Development				5.8	3.0
C. Shelter in Federal Buildings	19.8 a/				7.8
D. Shelter Provisions	90.3	32.7	23.5	2.8	52.6
E. Warning	6.8	4.1 b/	1.8	2.4	1.3
F. Emergency Operations	19.8	13.1 b/	13.1	12.5	13.3
G. Financial Assistance to States	18.9	27.5	23.7	27.0	30.5
H. Research and Development	19.0	11.0	10.0	10.0	15.0
I. Management	12.4	13.6	13.9	14.5	14.6
J. Public Information	4.0	4.3	2.7	3.2	4.0
K. Training and Education	2.9	9.9	14.1	15.4	15.5
TOTAL	252.3	125.4	110.5	105.2	193.9

a/ Includes $2.3 million transferred from OCDM for construction of a Regional Center.

b/ Excludes $2.2 million transferred to Army for civil defense warning and communications networks.

Note: Totals may not add due to rounding.

[redacted]

TABLE 5 - GENERAL PURPOSE FORCES - ARMY
(End Fiscal Year)

	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70
Divisions										
Airborne	2	2	2	2	2	2	2	2	2	2
Armored	3	3	3	4	4	4	4	4	4	4
Infantry	9	9	6	6	6	6	6	6	6	6
Mechanized		2	5	4	4	4	4	4	4	4
Total	14	16 a/	16	16	16	16	16	16	16	16
Combat Ready	11	14 a/	16	16 b/	16	16	16	16	16	16
Training	3	2	0	0	0	0	0	0	0	0
Brigades	2	1	4	7	7	7	7	7	7	7
Infantry Battle Grps	8	9	6							
Armd Cavalry Regts	5	5	4	4	4	4	4	4	4	4
Other Artillery Bns	41	41	53	48	48	48	48	48	48	48
Other Combat Bns	32	33	32	29	29	29	29	29	29	29
Aviation Companies	34	37	38	34	37	37	37	37	37	37
Special Forces Grps	3	4	6	7	7	7	7	7	7	7
Missile Commands	4	3	2	2	2	2	2	2	2	2
S-S Missile Bns c/										
REDSTONE-Separate	3	3	3							
CORPORAL-Separate	9	8	5							
CORPORAL-Organic	3	2	2							
SERGEANT-Separate		3	6	6	6	6	6	6	6	6
SERGEANT-Organic				1	1	1	1	1	1	1
PERSHING-Separate		1	3	5	5	5	5	5	5	5
LACROSSE-Separate	6	6	6							
HONEST JOHN-Separate	7	7	6	6	6	6	6	6	6	6
HONEST JOHN-Organic	12½	9½	10½	14	14	14	14	14	14	14
LITTLE JOHN-Separate	2	2	3	3	3	3	3	3	3	3
LITTLE JOHN-Organic		5	4	3	3	3	3	3	3	3
Total	42½	46½	48½	38	38	38	38	38	38	38
Air Defense Btys d/										
HERCULES-Separate	51	55	51	51	55	59	59	59	59	59
HAWK-Separate	52	76	76	76	76	73	73	73	73	73
FORWARD AREA-Separate								12	4	4
FORWARD AREA-Organic								12	20	20
Total	103	131	127	127	131	132	132	156	156	156

a/ Excludes two National Guard divisions on active duty.
b/ Plus 15,000 men in units required to test air mobility concepts.
c/ Includes organic as well as separate battalions. Organic missile battalions are in Divisions and/or Missile Commands. 6 SERGEANT and 8 PERSHING missiles per battalion (basic load).
d/ Number of firing batteries; HERCULES - 33 missiles per each of 24 batteries in Europe, all other batteries - 18 missiles; HAWK - 36 missiles per battery.

[redacted]

[redacted]

TABLE 6
COMPARISON OF PRESENT AND PROPOSED RESERVE
COMPONENT STRUCTURE

UNIT CATEGORY	PRESENT STRUCTURE					PROPOSED NEW STRUCTURE		
	Army National Guard	US Army Reserve	Total	Manning Level	Readiness Goals (Weeks) a/	Army National Guard b/	Manning Level	Readiness Goals (Weeks) a/
Units for which there is a requirement								
Air Defense	7,400		7,400	85%	0	7,400	85%	0
Units to Round out Active Army	76,500	78,600	155,100	80%	4,8	160,700c/	80%	4,6
6 Division Forces	118,000	64,100	182,100	75-80%	4,8	189,900	80%	4,8
2 Special Purpose Div. Forces	25,600	2,600	28,200	70%	4,12	33,500	80%	4,8
Brigades (now 11 - to be increased to 16)	25,000	16,300	41,300	75-80%	8	69,600	80%	6
Mobilization Base	2,600	66,600	69,200	75-100%	1,4	69,200	75-100%	1,2
Support to Other Services	1,900	9,300	11,200	70%	8	11,200	70%	8
State Hqtrs. & School Units e/	4,000		4,000			8,500		
Total	261,000	237,500	498,500					
Units for which there is not a requirement								
Other Divisions (21 divisions - 15 Guard and 6 Reserve)	122,800	45,600	168,400	53-60%	d/			
Non Divisional Units	15,450	16,300	31,750	55%	d/			
Command Hqs, Divisional	750	600	1,350					
Total	139,000	62,500	201,500					
TOTAL: Strength	400,000	300,000	700,000			550,000		
No. of Units			8,100			6,000		

a/ Total time from alert and mobilization to actual readiness for deployment (including training time).
b/ Paid drill space allocations are still tentative.
c/ Unit composition may change in a number of instances as the details of the plan are worked out.
d/ Actual deployment of these units is dependent on the availability of equipment, filler personnel, and activation, manning and training of necessary Support Forces.
e/ School units carried in other categories under present structure.

[redacted]

[redacted]

TABLE 7 - ARMY PROCUREMENT
(TOA, $ Millions)

[redacted]

TABLE 8 - GENERAL PURPOSE FORCES - NAVY
(End Fiscal Year)

	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70
Attack Carriers										
Enterprise		1	1	1	1	1	1	1	1	1
Forrestal	5	6	6	6	7	7	7	7	8	8
Midway	3	3	3	3	2	2	2	2	2	3
Essex	7	6	5	5	5	5	5	5	4	2
Total	15	16	15	15	15	15	15	15	15	14
Attack Carrier Groups										
Fighter Bombers										
F3B/F6A	167	121	72	19						
F8A/B/C/D	177	124	127	64	36					
F8E		35	69	107	120	120	120	120	96	48
F-4B/G/J		77	108	161	204	240	240	240	240	216
F-111B									12	36
Total	344	357	376	351	360	360	360	360	348	300
Attack										
A-1	215	197	183	145	120	108	96	60	24	
A-4B	171	141	55	16						
A-4C	135	242	275	246	266	252	252	182	56	
A-4E			37	119	168	182	182	210	210	210
A-6A				14	45	54	63	90	117	117
A-7A							42	140	280	406
Total	521	580	550	540	599	596	635	682	687	733
Heavy Attack										
A-5A		7	21	15	3					
A-3B	92	93	84	76	57	33	33	33	30	33
Total	92	100	105	91	60	33	33	33	30	33
Recon/Intelligence										
RF-8A/RA-3B	69	75	67	64	54	45	45	45	40	34
EA-3B	14	17	18	18	18	18	17	16	15	14
EC-121	6	6	6	7	6	6	6	7	8	6
RA-5C				16	36	48	48	54	54	54
A-3B Tanker				4	2	2	2	2	2	2
Total	89	98	91	103	116	119	118	124	119	110
Fleet Early Warning										
E-1/EA-1/EC-1	87	109	105	84	72	62	54	34	20	4
E-2A				10	27	35	43	51	59	56
Total	87	109	105	94	99	97	97	85	79	60
Replacement Groups										
Fighter Bombers										
F-6A/F3B	55	35	13							
F-8A/B/C/D	68	67	47	44	9					
F-8E		20	18	32	29	27	23	21	17	11
F-4A/B	21	37	38	54	45	50	52	52	50	40
F-111B									4	14
Total	144	159	116	130	83	77	75	73	71	65

[redacted]

[redacted]

TABLE 8 - GENERAL PURPOSE FORCES - NAVY (Cont'd)
(End Fiscal Year)

	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70
Replacement Groups (Cont'd)										
Attack										
A-1	48	46	41	23	27	27	25	18	6	
A-3	24	23	26	13	12	8	8	8	8	5
A-4A/B/C	127	126	88	85	70	67	55	40	33	13
A-4E			21	30	40	43	43	44	44	44
A-6A			3	8	10	15	20	28	28	28
A-7A							21	32	70	98
Total	199	195	179	159	159	160	172	170	189	188
Recon/Intelligence										
A-5A	2	10	6	11	4	4	4	4	3	2
RA-5C			4	8	6	6	6	7	7	6
RA-3B/RF-9J		1	2	2						
Total	2	11	12	21	10	10	10	11	10	8
Trainer	154	125	132	126	125	123	117	102	97	98
Support Aircraft	47	46	43	40	31	19	17	20	20	20
Total	1679	1780	1709	1655	1642	1594	1634	1660	1650	1615
ASW-Surveillance & Ocean Control										
Ships										
ASW Carriers	9	10	9	9	9	9	9	9	9	9
SSN	13	16	16	19	23	31	41	47	52	56
SS	92	88	86	83	81	74	64	58	53	49
Sub Direct Support	27	27	26	24	25	25	21	19	16	16
DEG						4	6	6	6	6
DE	20	47	21	22	23	27	29	36	51	63
DER	7	9	12	11	6	5	3	3	3	1
New ASW DE										1
Small Patrol	4	2	4	8	13	20	25	29	35	35
A/C Support Ships	7	8	7	7	7	6	5	4	4	4
Total	179	207	181	183	187	201	203	211	229	240
ASW Carrier Air Wings										
SH-34G/J	121	103	31	8	14					
S-2A/B/D/F	179	207	157	121	80	60	40	20	20	20
SH-3A		49	93	120	130	144	144	144	144	144
S-2E			31	61	100	120	140	160	160	160
A-4C					24	24	24	36	36	36
EA-1E/E-1B	37	48	36	57	40	40	39	39	39	39
Station Support A/C	32	38	40	38	32	12	10	11	14	14
Replacement A/C	43	47	54	51	53	53	53	53	53	53
Total	412	492	442	456	473	453	450	463	466	466

[redacted]

[redacted]

TABLE 8 - GENERAL PURPOSE FORCES - NAVY (Cont'd)
(End Fiscal Year)

	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70
Patrol A/C Sqdns										
P-2E/S-2A		158								
SP-2E/H	247	285	231	218	204	168	120	84	48	12
P-3A			31	56	90	117	153	180	207	234
EC-121K					1	1	1	1	1	1
Seaplanes	72	76	61	47	36	36	36	36	36	36
Replacement A/C	42	35	46	45	39	39	39	39	39	39
Support A/C	9	6	5	5	4	4	4	4	4	4
Total	370	560	374	371	374	365	353	344	335	326
Sound Surveillance Sys (SOSUS)										
Atl Caesar Arrays	18	18	18	19	20	23	26	27	27	27
Pac Caesar Arrays	6	6	7	7	7	7	8	8	8	8
COLOSSUS I					1	2	3	3	3	3
Multi-Purpose Ships										
SAM Ships										
CGN		1	1	1	1	1	1	1	1	1
CG/CLG/CAG	8	8	10	11	11	11	10	10	10	10
DLGN			1	1	1	2	2	2	1	2
DLG	8	10	13	19	21	27	26	22	22	21
DDG	7	13	17	21	23	23	27	29	29	29
Other Combat										
CA (gun)	4	4	3	2	2	2	2	2	2	2
DL (gun)	5	5	5	5	4	3	3	3	3	3
DD/DDR	203 a/	212	190	179	185	180	176	163	146	135
Direct Support Tenders	15	15	15	15	15	15	15	15	15	15
Total	250	268	255	254	263	264	262	247	229	218
Mine Warfare Ships										
Mine Warfare Ships	83	84	84	84	84	84	85	85	85	86
Direct Support	3	3	3	3	3	3	3	3	3	3
Total	86	87	87	87	87	87	88	88	88	89
Amphibious Assault Ships	111	131	133	134	136	141	141	142	142	141
Log & Oper Support Ships										
Underway Replenishment	65	76	76	72	72	74	73	72	70	72
Fleet Support	73	71	87	88	88	86	86	86	84	84
Total	138	147	163	160	160	160	159	158	154	156
Fleet Tactical Suppt A/C	64	68	68	69	81	81	81	81	81	80
Fleet Suppt A/C	279	318	321	303	333	333	334	341	336	338
Other Support A/C	295	311	303	300	233	177	162	163	166	165
Total: Ships	779	856	834	833	848	868	868	861	857	858
Aircraft	3,099	3,529	3,217	3,154	3,136	3,003	3,014	3,052	3,034	2,990

a/ Includes 33 DDEs.

[redacted]

[redacted]

TABLE 9 - GENERAL PURPOSE FORCES - NAVY SHIP CONSTRUCTION AUTHORIZATION PROGRAM
Authorized for Start of Construction in Fiscal Year

	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70
New Construction										
CVA Attack Carrier	1		1				1			
SSN Attack Submarine	1	3	8	6	6	4	4	4	4	4
Escorts	2	6	8	10	16	10	11	10	10	10
Small Patrol			2	10	3	12				
Frigates	3	7								
Destroyers	2									
Mine Warfare						4	5	7	1	1
Amphibious	1	4	5	3	10	15	14	13	13	
Logistics & Oper. Support	2	1	1	1	7	7	14	14	15	12
Direct Support Ships				1	2	2	2	2	1	
Total New Construction	12	21	25	31	44	54	51	50	44	27
Conversions										
CVA (Modernization)						1		1		
SS Attack Submarine		6					6	6		
DDG (DL & DD 931)				6						
CAG (BW to HT)								1		1
DLG (BT to HT)						1	1	1	1	
CG (Modernization)						1	1			
DLG/DLGN (Modernization)						1	4	3	3	3
DD (DD 931 ASW MOD)				1		5	5	3		
Destroyers (FRAM)	14	14	24	19						
Mine Warfare			1	1		1			1	1
Amphibious					1					
Logistics & Oper. Support			5	7	3					
Total Conversions	14	20	30	34	4	10	17	15	5	5
Total New Construction and Conversion	26	41	55	65	48	64	68	65	49	32
Total Cost of Ships (in Millions)	$914	$1,295	$1,606	$1,484	$1,732	$1,751				
Net Adv. Procurement	-5	+19	+28	-44	+10	-10				
TOTAL	$909	$1,314	$1,634	$1,440	$1,742	$1,741				

[redacted]

[redacted]

TABLE 10 - GENERAL PURPOSE FORCES - MARINE CORPS
(End Fiscal Year)

	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70
Marine Divisions	3	3	3	3	3	3	3	3	3	3
Marine Air Wings	3	3	3	3	3	3	3	3	3	3
Tank Battalions	3	3	3	3	3	3	3	3	3	3
Light AA Missile Bns (HAWK)	2	3	4	4	4	4	4	4	4	4
Hvy Arty Rkt Bns (HONEST JOHN)	2	3	3							
Amphibian Tractor Bns	3	3	3	3	3	3	3	3	3	3
Hq Fleet Marine Forces	2	2	2	2	2	2	2	2	2	2
Res Div/Wg Teams	1	1	1	1	1	1	1	1	1	1
Marine Air Wings										
Fighter Squadrons										
F-4B/J		2	44	77	105	150	195	225	225	225
F-8E		11	50	48	45	30	30			
F-8D	25	40	41	19	30	45				
F-8C	51	44	41	34	30					
F-8B	51	54	45	37	15					
F-8A	44	9								
F-6A	109	77	40							
Total	280	237	261	215	225	225	225	225	225	225
Attack Squadrons										
A-6A					15	36	60	72	72	72
A-7A								40	60	80
A-4E			9	80	140	140	140	80	60	40
A-4C	106	143	139	136	80	40				
A-4B	106	115	102	20						
AF-1E	34									
Total	246	258	250	236	235	216	200	192	192	192
Recon/Countermeasures										
RF-4B						15	27	27	27	27
RF-8A	27	26	25	27	27	12				
EA-6A					9	9	9	9	9	9
EF-10B	23	24	24	24	18	18	12	6	3	
Total	50	50	49	51	54	54	48	42	39	36
Tanker/Transport										
KC-130F	10	26	34	36	36	36	36	36	36	36
C-119G	36	11								
C-117		2	1	1						
C-54R/Q	14									
Total	60	39	35	37	36	36	36	36	36	36
Helicopter Trans Sqs										
CH-53A						19	56	72	72	72
CH-37C	26	29	27	27	24	24	12			
CH-46A				2	48	96	168	240	312	336
UH-34D	175	223	297	291	288	264	192	120	48	24
Total	201	252	324	320	360	403	428	432	432	432
Light Hel/Obs Sqs										
UH-1E			4	10	46	72	72	72	72	72
OH-43D	31	36	36	35	12					
O-1B/C	30	29	29	20	10					
Total	61	65	69	65	68	72	72	72	72	72
Tot Mar-Air Wg	898	901	988	924	978	1006	1009	999	996	993
Support Aircraft										
Marine Air Wings	66	125	105	93	64	28	28	28	28	28
Hq Fleet Marine Forces	49	55	56	53	49	45	45	47	47	47
Marine Air Bases	53	54	48	52	39	30	29	26	24	24
Total Support A/C	168	234	209	198	152	103	102	101	99	99
Total	1066	1135	1197	1122	1130	1109	1111	1100	1095	1092

[redacted]

[redacted]

TABLE 11 - NAVY AND MARINE CORPS RESERVE FORCES
(End of Fiscal Year)

	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70
Navy Res Trng Ships a/										
DD-Destroyer	13		13	13	17	17	23	23	28	28
DE-Escort	27		27	27	21	21	15	15	9	9
MSC Mnswper		1	3	4	4	4	4	4	8	13
MSCO Mnswper (Old)	11	10	9	8	8	8	8	8	4	
Total	51	11	52	52	50	50	50	50	49	50
Navy & Mar Corps Res a/c										
Fighter Units										
F8D							15	15	33	57
F8C					11	58	58	75	57	33
F8B					39	32	17			
F8A				16	23					
F-1E			27							
F-9E/MF-1C/AF-1E	96	180	111	79						
F-6A		8	22	18	17					
AF-9J	53	81								
Total	149	269	160	113	90	90	90	90	90	90
Attack Units										
A-1E	67	60	24	17	20	20	20	20	20	20
A-1G			1							
A-4C								16	162	206
A-4B	30	50	93	165	206	206	206	190	44	
A-4A			35							
Total	97	110	153	182	226	226	226	226	226	226
Recon/Photo										
RF-8A/G						6	6	6	6	6
RF-9J			7	7	6					
Total			7	7	6	6	6	6	6	6
Search Units										
S-2F	170	67	61	116	120	120	95	95	95	95
S-2D							25	25	25	25
S-2B			12							
S-2A			44							
Total	170	67	117	116	120	120	120	120	120	120
Search Units										
UH-34D/J			10	11	10	10	10	10	10	10
SH-34J			53	65	68	68	68	68	68	68
SH-34G	26	54	10							
UH-25	32	20								
Total	58	74	73	76	78	78	78	78	78	78
Patrol Units										
SP-2H							12	48	84	120
SP-2E	59	1	35	54	72	108	108	72	36	
TP-2F			7							
P/EP-2E			64	56	48	12				
P2F/G	10	25	18							
P2D	1	23								
Total	70	49	124	110	120	120	120	120	120	120
Transport Units										
C-54 R/T			4	3	4	4	4	4	4	4
C-54 P/Q	36	45	44	40	21	21	21	21	21	21
C-131F	2	2	3	2	3	3	3	3	3	3
C-117D			5	5	6	6	6	6	6	6
C-118B				4	27	27	27	27	27	27
C-119F		9	13	15	15	15	15	15	15	15
SC-47	12	14	2	2						
Total	50	70	71	71	76	76	76	76	76	76
Support Aircraft	89	110	100	88	89	89	89	89	89	89
Total	683	749	805	763	805	805	805	805	805	805
Reserve Fleet										
Ships Maintained by Navy										
Category A b/										
Category B	150	137	165	155	157	158	163	156	155	154
Other	564	496	437	448	437	437	455	472	503	529
Ships Maintained by Maritime Commission	346	385	378	357	370	384	395	413	426	459

a/ Includes only those ships which maintain operation readiness to perform wartime tasks.
b/ These are used as naval reserve training ships shown above.

[redacted]

[redacted]

TABLE 12 - NAVY AND MARINE CORPS AIRCRAFT PROCUREMENT PROGRAM

	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70
Fighter										
F-8E	94	102	90							
F-4B/J	72	118	150a/	125	124	90	84			
F-111B						4	20	42	66	88
Total	166	220	240	125	124	94	104	42	66	88
Attack										
A-4C	160	20								
A-4E	20	180	180	118						
A-6A	12	23	43	48	64	74	74	60		
A-7A					35	140	230	240	240	240
Total	192	223	223	166	99	214	304	300	240	240
Recon/Counter										
A-5A/C	42	20	23							
EA-6A		1								
RF-4B				9	27					
Total	42	21	23	9	27					
Fleet Early Warning										
E-2A	3	12	24	14		10	12	12		
Carrier ASW										
S-2E	48	51	48	48	48	36				
SH-3A	60	53	36	36	24	24	24			
Patrol										
SP-2H		5								
P-3A	12	42	48	48	48	45	45	45	45	
Helicopters										
UH-34D	85	99								
UH-2A	48	48	36	18						
UH-1E			30	48	24					
UH-46A			4	4	6	10				
CH-46A		14	32	56	84	90	100	90	36	
CH-53A				16	24	40	24			
RH-46A									3	3
Total	133	161	102	142	138	140	124	90	39	3
Fleet Tactical Support										
C/KC-130	30	7								
C-2A				b/	12	5	6			
Trainer										
T-2B				10	36	18				
T-39D		10	32							
TA-4E					35	73	44			
Mission Support										
C-130G				4						
Total	686	805	776	602	591	659	663	489	390	331
Proc Cost (In Millions)c/	$1,279	$1,478	$1,420	$1,195	$1,344	$1,545				

a/ Includes 27 aircraft procured from Air Force.
b/ Excludes 2 aircraft financed under RDT&E in FY 1964.
c/ Includes flyaway aircraft, advance buy, peculiar AGE, and training device costs. All spares and other support are not included.

[redacted]

[redacted]

TABLE 13 - GENERAL PURPOSE FORCES - AIR FORCE AND AIR NATIONAL GUARD
(End Fiscal Year)

	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70
Active Forces a/										
Tactical Fighters										
F-84		300	222	162						
F-86		75								
F-100	910	860	728	657	657	657	453	309	219	111
F-101	75	66	66	66	66					
F-104	72	129	54	54	54	18				
F-105	122	265	394	516	516	504	504	504	486	432
F-4				54	288	489	693	837	873	873
F-111							18	54	162	324
Total A/C	1179	1695 c/	1464	1509	1581	1668	1668	1704	1740	1740
No. of Wings	16	23c/	20	21	22	23	23	24	24	24
Interceptor Fighters										
F-89	12	12								
F-102	287	275	269	203	119	98	98	46		
Tactical Bombers										
B-57	48	48	48	48	48					
B-66	48									
Tactical Recon										
RF-84		72								
RF-101	144	128	128	128	128	112	108	108	108	96
RF-4					36	144	234	252	252	252
RB-66	108	108	108	108	72	33	12	12		
Total A/C	252	308c/	236	236	236	289	354	372	360	348
No. of Squadrons	14	18	14	14	14	17	20	21	20	20
KB-50 Tankers	120	120	100	40						
Special Air Warfare Forces										
B-26		16	33	33	33	33	33	33	33	33
T-28		16	29	33	14	14	14	14	14	14
A-1E				50	68	68	68	68	68	68
C-46		12	12	24	12	12	12	12	12	12
C-47/HC-47		12	12	24	31	31	31	31	31	31
U-10		8	20	20	20	20	20	20	20	20
C-123					92	92	92	92	92	92
Total A/C		64	106	184	270	270	270	270	270	270
Total Active A/C	1946	2522c/	2223	2220	2254	2325	2390	2392	2370	2358
Tactical Missiles										
MACE A (MGM-13A)		72	88	88	88					
MACE B (MGM-13B)		36	54	54	54	54	54	54	36	36
MATADOR	120									
Air National Guard b/										
Tactical Fighters										
F-84	300		67	150	250	250	100			
F-86	125	50	127	118	75	25				
F-100	100	50	132	200	223	235	400	500	500	500
F-104						25	47	46	25	
F-105				19	17	16	16	15	37	75
Total	525	100	326	487	565	551	563	561	562	575
Tactical Recon										
RB-57	60	60	60	60	60	24	24	24	24	24
RF-84	144	54	137	126	126	126	125	120	115	111
RF-101						54	54	54	54	54
KC-97 Tankers		10	30	30	50	50	50	50	50	50
Total ANG A/C	729	224	553	703	801	805	816	809	805	814

a/ Numbers of aircraft are derived by multiplying authorized squadron unit equipment by the numbers of squadrons. They do not include command support aircraft.

b/ Possessed aircraft where less than U.E.

c/ Includes seven Air National Guard tactical fighter wings (525 aircraft) and four tactical reconnaissance squadrons (72 aircraft) for a total of 597 aircraft on active duty.

[redacted]

[redacted]

TABLE 14- GENERAL PURPOSE FORCES - AIR FORCE AIRCRAFT PROCUREMENT PROGRAM

Type of Aircraft	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70
F-105	180	231	107							
F-4C		3a/	307	275						
F-4D				52	222	58				
F-4E						99	174			
F-111 (TFX)					10	55	112	188	192	192
RF-4C		2	24	89	128	96				
Total	180	236	[illegible]	416	360	308	286	188	192	192
Procurement Cost (In Millions) b/	$362	$533	$974	$956	$1024	$1106				

a/ Excludes 27 aircraft sold to Navy.

b/ Includes flyaway aircraft, Advance Buy, Peculiar AGE, and training device costs. All spares and other support are not included.

[redacted]

[redacted]

TABLE 15 - AIRLIFT AND SEALIFT FORCES
(End Fiscal Year) a/

	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70
Active Forces										
C-5A									16 f/	32
C-141					16	80	160	208	208	208
C-133	44	44	44	44	44	40	40	40	28	
C-124	260	316	300	300	308 d/	260	180	116	32 e/	16
C-130	208	240	312	436	504	504	504	504	496	456
C-118	107	95	95	48	b/					
C-123	96	80	80	80	c/					
C-135		42	40	38	28	14	14			
C-97		48								
C-121	56	56	28							
Total Active	771	921	899	946	900	898	898	868	780	712
Air Force Reserve										
C-119	592	592	592	592	592	448	208	48		
C-123	48	48	48	48	24	24				
C-124	40		20	20	48	88	152	152	152	128
C-130										24
Air National Guard										
C-121				56	56	56	32			
C-97	88	40	128	144	144	144	120	80		
C-124							24	72	128	128
C-123	8	8	8	8	8	8	8	8	8	
Res & Guard-Total	776	688	796	868	872	768	544	360	288	280
Res & Guard L/R Airlift (C-97, C-121, C-124, C-130)	128	40	148	220	248	288	328	304	280	280
30-day lift to:										
S.E. Asia (tons - 000) g/	14.7	20.0	23.6	25.4	29.0	36.1	48.5	54.8	67.0	78.9
Europe (tons - 000) g/	32.0	42.4	50.3	54.4	61.1	73.6	96.6	108.1	128.8	150.1
Sealift h/										
Forward Mobile Depots										
Fast Deployment Logistic Ships									4	6
Victory-Class Ships			3	3	3	3	17	17	17	17
Cargo:										
General Purpose	13	14	13	13	13	12	12	11	10	8
Roll-on/Roll-off	2	2	2	2	2	3	3	3	3	3
Special Purpose	44	44	45	43	43	43	42	41	40	38
Tankers	24	25	25	25	25	25	25	25	25	25
Troop Ships i/	16	16	16	16	16	16	16	16	16	16
Total	99	101	104	102	102	102	115	113	115	113

a/ Numbers of aircraft are derived by multiplying authorized squadron unit equipment by the number of squadrons.

b/ Navy will receive 35 C-118s as they are released from the Air Force; the balance will be used to modernize the Aeromedical Fleet and Air Force mission support inventory.

c/ Transferred to Special Air Warfare units in Program III.

d/ Net increase results from previously approved phase down offset by integration of two 18 U.E. C-124 Logistic Support Squadrons from AFLC.

e/ Former Logistic Support Squadrons reduce to standard 16 U.E. squadrons.

f/ An end FY 1969 IOC is possible with an expedited program definition phase. Slippage to end CY 1969 could occur however.

g/ Based on active and reserve military capabilities; CRAF not included.

h/ Does not include amphibious or underway replenishment ships in Program III.

i/ Distribution between Active and Ready Reserve Ships, 1965 through 1970, will be determined by the Secretary of the Navy based on sea transportation requirements as they then exist.

[redacted]

[redacted]

TABLE 16 - AIRLIFT AND SEALIFT PROCUREMENT PROGRAM

	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70
Airlift										
C-130B/E	57	93	144	78						
C-135A/B	20	15								
C-141			16	45	84	84	31			
C-5A							3	25	30	
Total Aircraft	77	108	160	123	84	84	34	25	30	
Cost ($ Millions)[a]	202	298	493	463	521	399				
Sealift										
T-LSV, Roll-on/Roll-off			1							
T-FDL, Fast Deployment Logistics Ships						4	2	2	2	2
T-AO Conversion					2	2	2	2	2	2
Cost ($ Millions)			19		8	140				

a/ Includes flyaway aircraft, advance buy, peculiar AGE, and training device costs. All spares and other support are not included.

[redacted]

[redacted]

TABLE 17 - SUMMARY OF STRENGTH, DRILL STATUS, ETC.
FOR RESERVE AND GUARD FORCES

(In Thousands)

	End Fiscal Year					
	1961	1962 a/	1963	1964	1965	1966
Army Reserve						
Paid Drill Training	301.8	261.5	237.0	268.5	270.0 b/	-
Other Paid Training	59.3	48.3	47.2	77.4	58.4	78.4
Total Paid Status	361.1	309.8	284.2	345.9	328.4	78.4
Army National Guard						
Paid Drill Training	393.8	361.0	360.7	381.5	385.0 b/	575.0
Other Paid Training	-	-	-	-	-	-
Total Paid Status	393.8	361.0	360.7	381.5	385.0	575.0
Total Army Paid Status	754.9	670.8	644.9	727.4	713.4	653.4
Naval Reserve						
Paid Drill Training	129.9	111.3	119.6	123.3	126.0	126.0
Other Paid Training	8.0	7.9	9.8	8.4	9.1	9.1
Total Paid Status	137.9	119.2	129.4	131.7	135.1	135.1
Marine Corps Reserve						
Paid Drill Training	43.8	46.6	46.3	45.9	45.5	45.5
Other Paid Training	2.1	2.0	1.8	2.1	3.1	3.1
Total Paid Status	46.0	48.6	48.1	48.0	48.6	48.6
Air Force Reserve						
Paid Drill Training	64.5	58.4	58.6	60.8	48.8	45.8
Other Paid Training	11.5	10.7	9.1	6.4	7.5	7.5
Total Paid Status	75.9	69.1	67.7	67.2	56.3	53.3
Air National Guard						
Paid Drill Training	70.9	50.3	74.3	73.2	75.0	77.0
Other Paid Training	-	-	-	-	-	-
Total Paid Status	70.9	50.3	74.3	73.2	75.0	77.0
Total AF Paid Status	146.8	119.5	142.0	140.5	131.3	130.3
Total Reserve Forces						
Paid Drill Training	1004.8	889.1	896.5	953.2	950.3	869.3
Other Paid Training	80.9	68.9	67.9	94.3	78.1	98.1
Total Paid Status	1085.7	958.0	964.4	1047.5	1028.4	967.4

a/ Excludes reservists called to active duty during the "Berlin crisis."
b/ The programed strength for the Army Reserve Components is 700,000, Army Reserve 300,000 and National Guard 400,000. The figures shown above are estimates of strengths that will actually be attained.

NOTE: Detail may not add to totals due to rounding.

[redacted]

TABLE 18 - DEPARTMENT OF DEFENSE PROGRAMS SUPPORTING THE FOUR SAFEGUARDS RELATED TO THE TEST BAN TREATY
(TOA, $ Millions)

TABLE 19 - RECAPITULATION OF DOD SPACE PROJECTS
(TOA, $ Millions)

	FY 1961	FY 1962	FY 1963	FY 1964	FY 1965	FY 1966

TABLE 20 - FINANCIAL SUMMARY OF RESEARCH AND DEVELOPMENT[a]/
(TOA, $ Millions)

	Prior Years	FY 1962	FY 1963	FY 1964	FY 1965	FY 1966
RESEARCH						
Army		73	73	74	85	96
Navy		119	126	118	124	138
Air Force		70	83	85	96	106
ARPA		33	31	34	45	47
Total Research		295	313	311	350	387
EXPLORATORY DEVELOPMENT						
Army		146	230	262	248	254
Navy		324	357	361	338	342
Air Force		294	291	302	318	316
ARPA		217	223	253	228	230
Total Exploratory Devel.		981	1101	1178	1132	1142
ADVANCED DEVELOPMENT						
Army						
Operation Evaluation V/STOL	1	7	12	17		
New Surveillance Aircraft	2	7	11	10	14	7
Heavy Lift Helicopter			15	2	1	3
Aircraft Suppressive Fire Systems			2	9	6	4
CCIS for Field Army		7	23	17	14	13
Surface to Air Missile					13	15
DoD Comm. Sat. Grnd.	80	102	27	25	15	20
NIKE X Experiments	5	19	98			
Anti-Tank Weapons	34	26	28	18		
Other Adv. Developments		18	32	47	48	64
Sub-Total	122	186	248	145	111	126
Navy						
V/STOL Development	1	6	12	22	9	5
P-1127 HAWKER			2	3		
Advanced Aircraft Engines						6
Advanced SAM System				5	8	12
Adv. Anti-radiation Missile System				3		6
Adv. Sea-based Deterrent			15	12	10	5
Astronautics		1	2	12	11	13
ARTEMIS/Underwater Acoustics		3	11	6	5	5
TRIDENT		5	15	11	8	4
Airborne ASW Detection System			4	11	18	21
Adv. Sub Sonar Development				3	3	13
Adv. Surface Sonar				5	7	5

[redacted]

TABLE 20 - FINANCIAL SUMMARY OF RESEARCH AND DEVELOPMENT (cont'd)
(TOA, $ Millions)

	Prior Years	FY 1962	FY 1963	FY 1964	FY 1965	FY 1966
Navy Advanced Developments (cont'd)						
Acoustic Countermeasures		1	1	1	5	5
ASW Torp C/M Resist					3	5
Sub-launched Anti-ship Torp.					2	3
Hydrofoils			4	5	4	2
Deep Submergence Program				2	4	18
Reactor Prop. Plants		13	10	11	12	20
Prop Dev/SEA HAWK					6	14
Active PLANAR Array Sonar				1	8	15
Ship Int. Combat Sys						1
Adv Mine Development					2	4
Adv. Mine Countermeasures						4
Other Advanced Developments		23	13	24	26	37
Sub-Total		52	89	137	151	223
Air Force						
Tri Serv V/STOL Devel	1	6	12	19	30	8
V/STOL Aircraft Techn				3	10	8
VTOL Eng Development				2	9	30
Lightweight Turbojet		2	5	8	10	10
Overland Radar						8
AWACS (Airborne Warning & Control Sys)					9	3
Tac Fighter Avionics					14	31
Recon Strike Capability		6	14	10	6	10
Close Support Fighter						10
X-15 Aircraft	150	10	10	9	8	6
Tac Missile Guid Dev.					3	5
Stellar Inert Guid.		3	49	22	2	1
Advanced ICBM			9	8	3	5
SABRE (Self-Aligning Boost and Re-entry)					15	15
Low Alt. Supersonic Vehicle	24	7	12	15	5	6
Manned Orbital Laboratory				10	37	150
GEMINI (Manned Space Flight)				16	9	2
X-20 (DYNASOAR)	109	100	132	65		
Program 461 (MIDAS)	196	164	75	35	27	40
Program 706 (Satellite Insp.)	6	26	29	2		
Re-entry & Recovery (START)			14	18	21	35
Advanced Space Guidance					7	10
Solid Rocket Engine Dev.		14	14	31	12	6

[redacted]

[redacted]

TABLE 20 - FINANCIAL SUMMARY OF RESEARCH AND DEVELOPMENT (cont'd)
(TOA, $ Millions)

	Prior Years	FY 1962	FY 1963	FY 1964	FY 1965	FY 1966
Air Force Advanced Dev. (Cont'd)						
Liquid Rocket Engine Devel					4	8
Chemical Rkt Space Maneuver						7
Other Advanced Developments		141	80	112	69	65
Sub-Total		379	455	385	310	479
Total Advanced Development		617	792	667	572	828
ENGINEERING DEVELOPMENT						
Army						
NIKE-ZEUS Testing	836	273	175	64	40	
NIKE-X				270	318	407
Forward Area Air Def (incl. MAULER)	39	36	50	59	22	10
Division Support Msl (LANCE)	4	1	18	49	67	46
Fire Power other than Missiles	3	28	49	57	52	64
Aircraft Supp. Fire System		7	6	13	11	15
Adv. Aerial Fire Sprt. System				5	1	17
Tac. Transport Aircraft			3	5	2	2
Combat Surv. and Target Acq.		36	35	23	19	18
Communications & Electronics		27	47	30	24	25
Tank, Main Battle			2	9	11	22
Hvy AT Assault Wpn (TOW)					20	17
Other Engr. Dev.		79	79	62	47	54
Sub-Total		486	464	646	634	697
Navy						
Adv. Des ASW Dest Esc (SEA HAWK)			9	14	4	
ASW Ship Cmd. Control System					6	4
W/G MK-48 Torpedo			4	19	18	43
ASW Rockets					2	4
Other ASW		3	5	9	12	14
Marine Corps Dev	6	7	4	5	10	16
Aircraft Engines			9	13	20	
Special Warfare Navy A/C					12	6
Other Engr. Dev.		57	75	91	53	80
Sub-Total		67	106	151	137	167
Air Force						
XB-70	800	220	207	156	75	25
Adv. Manned Aircraft					28	39
Short Range Atk Missile					5	37
YF-12A		44	42	60	32	28
ASG-18/AIMS-47A	10	16	23			

[redacted]

[redacted]

TABLE 20 - FINANCIAL SUMMARY OF RESEARCH AND DEVELOPMENT (cont'd)
(TOA, $ Millions)

	Prior Years	FY 1962	FY 1963	FY 1964	FY 1965	FY 1966
Oper. Sys. Dev. Army (cont'd)						
HAWK	128	5	3	15	19	13
Combat Veh Sys Long Range				2	4	4
SHILLELAGH				32	18	5
Multi-System Test Equipment			4	10	5	3
DUCC (Deep Underground Command Ctr)						7
Comm. Intel. & Security		11	18	20	19	19
Other Operational Sys. Dev.		41	31	27	20	4
Sub-Total		178	102	135	100	74
Navy						
FBM Subs	1469	460	397	218	65	115
F4B Equipment Improvement		3	9	9	5	4
Helo Avionics System				5	8	7
Tactical Fighter F-111B			11	20	28	22
Tac Fighter F-111B FC & Msl			22	64	73	71
Impr Follow-on Lt Atk A/C				34	40	2
Avionics Development/ILAS*			5	5	10	15
A/C Launch & Retrieve Flt. Sprt.			7	6	8	7
SATS (Short Airfield for Tac Sprt)	16	2	7	7	2	2
SQS-26 Sonar	16	3	3	14	5	13
Radar Height Finding	4	6	6	2	1	3
Undersea Surveillance		4	5	6	6	9
Sonar Fix Program					5	15
U/W Ordnance Fix Program				4	5	10
Torpedo MK 46	38	11	21	14	16	8
SHRIKE		7	14	10	7	7
SPARROW III	31	5	4	4	4	3
SUBROC	84	34	37	18	6	4
Eye Weapons	1	1	1	15	10	8
Target Improvement				2	4	7
SAM Improvement					47	40
A/L G/M Fleet Support				7	7	8
Command Control System		6	11	13	9	11
Naval Tactical Data System	68	10	7	6	4	3
Marine Corps Tac Data System	21	8	6	5	4	3
Other Operational Systems		42	57	109	50	51
Sub-Total		602	630	597	429	448

* Integrated Light Atk Avionics System

[redacted]

[redacted]

TABLE 20 - FINANCIAL SUMMARY OF RESEARCH AND DEVELOPMENT (cont'd)
(TOA, $ Millions)

	Prior Years	FY 1962	FY 1963	FY 1964	FY 1965	FY 1966
Oper. Sys. Dev. (cont'd)						
Air Force						
SR-71			20	70	81	17
MINUTEMAN II			137	329	307	238
PACCS (Post Attk Cmd & Cont Sys)			7	3	5	5
OTH Radar System			7	10	10	5
SPACE TRACK	4	19	23	12	8	8
TAC Ftr F-111A (TFX)	5	6	116	231	321	205
CX-HLS (C-5A)				10	42	157
TITAN III X/Agena					34	36
Special Support Activities	807	323	486	414	273	407
Other Operational Systems		1299	777	263	90	40
Sub-Total		1646	1573	1342	1171	1118
Defense Agencies						
Defense Agencies - Sub-Total		193	203	188	214	211
TOTAL OPERATIONAL SYSTEMS DEV.		2615	2508	2262	1914	1851
TOTAL R&D		6820	7578	7591	7032	7300
Less Support from Other Approp.		482	507	454	469	536
TOTAL OBLIGATIONAL AUTHORITY, RDT&E Appropriations		6338	7071	7137	6563	6764
Financing Adjustments		-970	-78	-153	-78	-55
NEW OBLIGATIONAL AUTHORITY, RDT&E Appropriations		5368	6993	6984	6485	6709

a/ Prior year program data are presented on the basis of comparability to the program as shown for the FY 1966 budget, except where transfer of functions between services is involved for the missile test range activities in the Pacific.

[redacted]

TABLE 20 - FINANCIAL SUMMARY OF RESEARCH AND DEVELOPMENT (cont'd)
(TOA, $ Millions)

	Prior Years	FY 1962	FY 1963	FY 1964	FY 1965	FY 1966
Air Force Eng. Dev. (cont'd)						
Adv. Bal. Msl. Re-entry Sys (ABRES)			121	155	161	168
NIKE/ZEUS Targets		4	6	4	7	9
TITAN IIIA and IIIC		35	233	330	198	95
M/MRBM (Mobile Mid Range Bal. Msl)		4	26	36	19	
Other Eng. Dev.		94	175	149	153	117
Sub-Total		417	833	890	678	518
TOTAL ENGINEERING DEV.	-	970	1403	1687	1449	1382
MANAGEMENT AND SUPPORT						
Army						
White Sands Msl Range		54	65	75	87	88
Kwajalein Test Site				1	34	38
General Support		159	154	172	165	199
Sub-Total		213	219	248	286	325
Navy						
Pacific Missile Range		119	134	141	123	77
AUTEC (Atlantic Undersea Test & Evaluation Ctr)		15	18	14	19	8
General Support		165	177	173	176	210
Sub-Total		299	329	328	318	295
Air Force						
Eastern Test Range		193	268	239	220	221
Western Test Range					3	62
General Support		637	645	664	659	645
Sub-Total		830	913	903	882	928
DSA				7	11	12
TOTAL MANAGEMENT AND SUPPORT		1342	1461	1486	1497	1560
EMERGENCY FUND	-				118	150
SUB-TOTAL R&D	-	4205	5070	5329	5218	5449
OPERATIONAL SYSTEMS DEVELOPMENT						
Army						
SERGEANT	170	8	5	1	1	3
REDEYE	13	9	12	16	9	4
PERSHING		104	29	12	5	12

[redacted]

TABLE 21 - GENERAL SUPPORT
(TOA, $ Millions)

	FY 63	FY 64	FY 65	FY 66
Individual Training and Education				
Recruit Training and Education	$ 605	$ 732	$ 750	$ 789
Special Training & Enlistment Program			7	30
Technical Training	1,012	1,105	1,057	1,121
Professional Training	225	235	284	297
Flight Training	633	622	723	647
Service Academies	99	97	132	162
Headquarters and Support	267	333	360	350
Total	$2,843	$3,124	$3,313	$3,396
Intelligence and Security				
Cryptologic Intelligence Activities	$ 825	$ 824	$ 859	$ 836
General Intelligence Activities	474	526	564	610
Total	$1,298	$1,350	$1,424	$1,447
Communications - Total	$ 805	$ 884	$ 862	$ 873
Logistic Support - Total	$3,034	$3,145	$3,161	$3,120
Military Family Housing - Total	$ 693	$ 672	$ 667	$ 748
Medical Services - Total	$ 772	$ 762	$ 872	$ 864
Headquarters and Support Services				
Headquarters	$ 777	$ 922	$ 940	$1,000
Weather Service	121	122	129	130
Air Rescue/Recovery	49	92	125	85
Construction Support Activities	143	92	92	104
DEEP FREEZE	21	21	19	20
Other Support Activities	2,046	2,135	2,324	2,380
Total	$3,157	$3,384	$3,629	$3,719
National Military Command System - Total	$ 48	$ 80	$ 93	$ 120
Defense Atomic Support Program - Total	$ 192	$ 155	$ 158	$ 151
Miscellaneous Department-Wide Activities				
Contingencies	$ 11	$ 10	$ 15	$ 15
Claims	22	19	29	24
Other	81	88	87	140
Total	$ 114	$ 117	$ 131	$ 180
GRAND TOTAL	$12,955	$13,673	$14,310	$14,619

NOTE: Detail may not add due to rounding

[redacted]

[redacted]

TABLE 22 - DEPARTMENT OF DEFENSE COST REDUCTION PROGRAM
(In Millions of Dollars)

	Estimated Savings to be Realized in: a/				
	FY 1963	FY 1964	FY 1965	FY 1966	FY 1968
A. BUYING ONLY WHAT WE NEED					
1. Refining Requirement Calculations					
a. Major items of equipment	90	487	373	747	
b. Initial provisioning	163	218	134	184	
c. Secondary items	481	643	607	799	
d. Technical manuals	-	10	-	8	
e. Production base facilities	35	14	19	-	
f. Technical data and reports	-	2	4	2	
2. Increased Use of Excess Inventory in lieu of new procurement					
a. Equipment and supplies	-	57	15	75	
b. Idle production equipment	1	-	-	-	
c. Excess contractor inventory	18	14	1	3	
3. Eliminating "Gold-plating" (Value Eng.)	72	76	15	83	
4. Inventory Item Reduction	-	-	-	72	
Total Buying Only What We Need	860	1,521	1,168	1,973	2,001
B. BUYING AT THE LOWEST SOUND PRICE					
1. Shift from Non-Competitive to Competitive Procurement					
Total % competitive b/	37.1%	39.1%	-	-	
Total amount of savings	237	448	216	414	
2. Shift from CPFF to Fixed or Incentive Price					
Total % CPFF c/	20.7%	12.0%	-	-	
Total amount of savings	-	100	436	599	
3. Breakout for Direct Purchase	-	5	-	2	
Total Buying at Lowest Sound Price	237	553	652	1,015	1,114
C. REDUCING OPERATING COSTS					
1. Terminating Unnecessary Operations	123	334	359	551	
2. Consolidation & Standardization of Operations					
a. DSA operating expense savings d/	31	42	53	57	
b. Consolidation of contract admin.	-	-	-	-	
c. Departmental Oper. exp. savings	-	95	20	95	
3. Increasing Efficiency of Operations					
a. Improving telecommunications mgmt.	80	131	49	129	
b. Improving trans. & traffic management	24	7	12	35	
c. Improving equip. maint. management	-	65	109	108	
d. Improving non-combat vehicle mgmt.	2	18	12	21	
e. Reduced use of contract tech.	-	20	9	27	
f. Improv. military housing management	6	13	8	14	
g. Improv. real property management	23	25	9	27	
h. Packaging, preserving, & packing	-	7	1	3	
4. Military Assistance Program	-	-	-	-	
Total Reducing Operating Costs	289	757	641	1,067	1,711
TOTAL PROGRAM	1,386	2,831	2,461 e/	4,055	4,826

a/ Includes certain one-time savings not expected to recur in future years.

b/ FY 1961 was 32.9 percent; total annual conversion from sole source by end of FY 1966 of $1.8 billion - savings are 25 percent per dollar converted.

c/ For the first nine months of FY 1961, CPFF was 38 percent, a reduction of $6.8 billion is required to reduce that percentage to the FY 1966 goal of 12.0 percent; savings are ten percent per dollar converted.

d/ Excludes DSA inventory drawdown without replacement of $38 million for FY 1962; $262 million in FY 1963; $161 million in FY 1964; $111 million in FY 1965; and $131 million in FY 1966, a total of $703 million.

e/ Amount reflected in the original FY 1965 budget; actual accomplishment is expected to exceed this amount.

[redacted]

[redacted]

TABLE 23 - FY 1965 BUDGET PROGRAMS AND NEW OBLIGATIONAL AUTHORITY
By Appropriation Title
(Millions of Dollars)

MILITARY PERSONN
Military Perso
Military Perso
Military Perso
Military Perso
National Guard
National Guard
Reserve Person
Reserve Person
Reserve Person
Reserve Person
Retired Pay, D
TOTAL - Mil
OPERATION AND MA
Operation and
Operation and
Operation and
Operation and
Operation and
Operation and
Operation and
National Board
Claims, Defens
Contingencies,
Court of Milit
TOTAL - Ope
PROCUREMENT
Procurement of
Procurement of
Shipbuilding a
Other Procurem
Procurement, M
Aircraft Procu
Missile Procur
Other Procurem
Procurement, D
TOTAL - Prc

* Less than $5

[redacted]

TABLE 23 - FY 1965 BUDGET PROGRAMS AND NEW OBLIGATIONAL AUTHORITY (cont'd)
By Appropriation Title
(Millions of Dollars)

RESEARCH, DEVEL
Research, Dev
Research, Dev
Research, Dev
Research, Dev
Emergency Fun
TOTAL - Re
MILITARY CONSTR
Military Cons
Military Cons
Military Cons
Military Cons
Military Cons
Military Cons
Military Cons
Military Cons
Military Cons
Loran Station
TOTAL - Mi
FAMILY HOUSING
Family Housin
CIVIL DEFENSE
Operation and
Shelter, Cons
TOTAL - Ci
TOTAL
MILITARY ASSIST
Military Assi
RECAPITULATION:
Department of
Office, Civ
Department of
Department of
Defense Agenc
Retired Pay
Family Hous
Other
Military Assi

a/ Includes p

* Less than

TABLE 24 - FY 1966 BUDG[redacted]S AND NEW OBLIGATIONAL AUTHORITY
By Appropriation Title
(Millions of Dollars)

MILITARY PERSONNE
Military Perso
Military Perso
Military Perso
Military Perso
National Guard
National Guard
Reserve Person
Reserve Person
Reserve Person
Retired Pay, De
TOTAL - Milit
OPERATION AND MA
Operation and M
Operation and M
Operation and M
Operation and M
Operation and M
Operation and M
Operation and M
National Board
Claims, Defense
Contingencies,
Court of Milita
TOTAL - Opera
PROCUREMENT
Procurement of
Procurement of
Shipbuilding ar
Other Procureme
Procurement, Ma
Aircraft Procu
Missile Procure
Other Procureme
Procurement, De
TOTAL - Procu

[redacted]

TABLE 24 - FY 1966 BUDGET PROGRAMS AND NEW OBLIGATIONAL AUTHORITY (cont'd)
By Appropriation Title
(Millions of Dollars)

RESEARCH, DEVELOP
Research, Devel
Research, Devel
Research, Devel
Research, Devel
Emergency Fund,
TOTAL - Resea
MILITARY CONSTRUC
Military Constr
Military Constr
Military Constr
Military Constr
Military Constr
Military Contru
Military Contru
Military Contru
Loran Stations,
TOTAL - Milit
FAMILY HOUSING
Family Housing,
CIVIL DEFENSE
Operation and M
Shelter, Constr
TOTAL - Civil
TOTAL -
MILITARY ASSISTAN
Military Assist
GRA
RECAPITULATION:
Department of t
Office, Civil
Department of t
Department of t
Defense Agencie
Retired Pay,
Family Housin
Other
Military Assist

* Less than $50

[redacted]

TABLE 25 - AMOUNTS REQUESTED FOR AIRCRAFT, MISSILES,
AND SHIP PROCUREMENT AUTHORIZATION IN FY 1966
COMPARED WITH FY 1965
(In Thousands)

	Authorized FY 1965	Appropriated FY 1965	Requested FY 1966
Aircraft			
Army	$ 443,600	$ 442,200	$ 344,500
Navy and Marine Corps	1,854,900	1,836,258	1,915,800
Air Force	3,663,000	3,563,737	3,550,200
Missiles			
Army	282,600	233,900	253,700
Navy	660,100	660,100	364,000
Marine Corps	13,100	2,600	13,000
Air Force	1,730,000	1,730,000	796,100
Naval Vessels			
Navy	1,966,000	1,930,076	1,501,100
Totals	10,613,300	10,398,871	8,738,400

[redacted]

[redacted]

TABLE 26 - SOURCE OF FUNDS FOR AIRCRAFT, MISSILES AND SHIPS
FY 1966 PROCUREMENT PROGRAM
(In Thousands)

	Total Amount of FY 1966 Program	Funding Available For Financing Program in Part	NOA Requested for Authorization
AIRCRAFT			
Procurement of Equipment and Missiles, Army	$ 344,500	$ -	$ 344,500
Procurement of Aircraft and Missiles, Navy (and Marine Corps)	2,172,500	256,700	1,915,800
Aircraft Procurement, Air Force	3,850,200	300,000	3,550,200
Sub-Total - Aircraft	6,367,200	556,700	5,810,500
MISSILES			
Procurement of Equipment and Missiles, Army	253,700	-	253,700
Procurement of Aircraft and Missiles, Navy	378,062	14,062	364,000
Procurement, Marine Corps	13,000	-	13,000
Missile Procurement, Air Force	1,161,200	365,100	796,100
Sub-Total - Missiles	1,805,962	379,162	1,426,800
NAVAL VESSELS			
Shipbuilding and Conversion, Navy	1,906,100	405,000	1,501,100
GRAND TOTAL	10,079,262	1,340,862	8,738,400

[redacted]

TABLE 27 - FY 1966 AIRCRAFT PROCUREMENT PROGRAM
($ in millions)

	FY 1966 Program		
	Quantity	Amount	
Army			
Airplane, Instrument Trainer	10		.7
CH-47B Helicopter Transport (CHINOOK)	60	79.8	
Less: Advance Procurement, Prior Year		-4.8	75.0
CH-47B Advance Procurement, Current Year			.2
LOH-4/5/6 Helicopter Observation	168	19.3	
Less: Advance Procurement, Prior Year		-1.6	17.7
LOH 4/5/6 Advance Procurement, Current Year			2.7
UH-1D Helicopter Utility, Tactical (IROQUOIS)	720	170.7	
Less: Advance Procurement, Prior Year		-9.8	160.9
UH-1D Advance Procurement, Current Year			7.2
Helicopter, Instrument Trainer	60	3.5	
Less: Advance Procurement, Prior Year		-.1	3.4
Helicopter, Instrument Trainer Advance Procurement, Current Year			.1
MQM-57A (USD-1A Surveillance Drone)	100		1.8
Items Less Than $500,000			3.1
Modification of Aircraft			16.1
Aircraft Spares and Repair Parts			36.7
Component Improvement			6.0
Common Ground Equipment			6.6
Other Production Charges			1.4
Avionics/Armament Support Equipment			3.0
First Destination Transportation			1.9
Total Program	1,118		344.5
Navy and Marine Corps			
A-6A (Attack) INTRUDER	74	289.7	
Less: Advance Procurement in PY		-7.7	282.0
A-6A Advance Procurement CY			8.1
A-7A (Attack) VAL	140	237.2	
Less: Advance Procurement in PY		-17.5	219.7
A-7A Advance Procurement CY			21.4
F-4J PHANTOM	90	235.0	
Less: Advance Procurement in PY		-9.4	225.6
F-4J Advance Procurement CY			8.9
F-111B	4	140.4	
Less: Advance Procurement in PY		-.4	140.0
F-111B Advance Procurement CY			5.3
CH-46A	90	96.2	
Less: Advance Procurement in PY		-3.9	92.3
CH-46A Advance Procurement CY			5.9
UH-46A	10		7.1
CH-53A	40	76.7	
Less: Advance Procurement in PY		-6.1	70.6

TABLE 27 - FY 1966 AIRCRAFT PROCUREMENT PROGRAM (cont'd)
($ in millions)

	FY 1966 Program		
	Quantity	Amount	
Navy and Marine Corps (cont'd)			
CH-53A Advance Procurement CY			5.3
SH-3A	24	35.0	
Less: Advance Procurement in PY		-2.4	32.6
SH-3A Advance Procurement CY			2.9
P-3A ORION	45	186.2	
Less: Advance Procurement CY		-14.9	171.3
P-3A Advance Procurement CY			16.8
S-2E Tracker	36	39.7	
Less: Advance Procurement CY		-5.5	34.2
E-2A	10	104.4	
Less: Advance Procurement in PY		-4.6	99.8
E-2A Advance Procurement CY			2.4
T-2B BUCKEYE	18	18.1	
Less: Advance Procurement in PY		-1.1	17.0
TA-4E	73	62.5	
Less: Advance Procurement in PY		-4.9	57.6
C-2A COD	5	17.8	
Less: Advance Procurement in PY		-.2	17.6
C-2A Advance Procurement in CY			.2
Modification of Aircraft			108.4
Aircraft Spares and Repair Parts			449.0
Component Improvement			33.5
Industrial Facilities			12.8
Other Production Charges			24.2
Total	659		2,172.5
Air Force			
SR-71 Strategic Reconnaissance			[redacted]
F-4D Tactical Fighter	58	124.3	
Less: Advance Procurement in PY		-4.5	119.8
F-4E Tactical Fighter	99		274.3
F-4E Advance Procurement, CY			25.0
F-111A Tactical Fighter	55	425.8	
Less: Advance Procurement in PY		-22.0	403.8
F-111A Advance Procurement, CY			48.0
RF-4C Tactical Reconnaissance	96	245.4	
Less: Advance Procurement, PY		-10.1	235.3
C-141A Jet Transport	84	435.7	
Less: Advance Procurement, PY		-55.1	380.6
C-141 Advance Procurement, CY			18.2
T-38A Supersonic Jet Trainer	70	45.3	
Less: Advance Procurement, PY		-7.7	37.6
HC-130H Search and Rescue	15	40.8	
Less: Advance Procurement, PY		-6.0	34.8

TABLE 27 - FY 1966 AIRCRAFT PROCUREMENT PROGRAM (cont'd)
($ in millions)

	FY 1966 Program	
	Quantity	Amount
Air Force (cont'd)		
UH-1F Helicopter, Utility	40	11.4
Modification of Aircraft		632.4
Aircraft Spares and Repair Parts		627.2
Common AGE		41.6
Component Improvement		42.0
Industrial Facilities		41.2
War Consumables		39.4
Other Production Charges		30.0
Classified Projects		439.9
Total	517	[redacted]

[redacted]

TABLE 28 - FY 1966 MISSILE PROCUREMENT PROGRAM
(In Millions of Dollars)

	FY 1966 Program	
	Quantity	Amount
Army		
CHAPARRAL	1,300	20.4
XMIM43A REDEYE	9,901	58.3
MGR-1B HONEST JOHN	-	1.9
MGR-3A LITTLE JOHN	-	.5
XMGM-29A SERGEANT	-	1.9
XMGM-31A PERSHING	60	52.0
XMGM-51A SHILLELAGH	19,459	60.9
AGM-224 SS-11	1,370	2.7
TARGET MISSILES	128	6.0
MODIFICATION OF IN SERVICE MISSILES	-	26.6
PRODUCTION BASE SUPPORT	-	1.7
MISSILE SPARES AND REPAIR PARTS	-	16.7
FIRST DESTINATION TRANSPORTATION	-	4.1
TOTAL ARMY PROGRAM	32,218	253.7
Marine Corps		
XMIM-23A HAWK	-	3.5
XMIM-43A REDEYE	1,505	8.7
ALL OTHER ITEMS	-	.8
TOTAL MARINE CORPS PROGRAM	1,505	13.0
Navy		
UGM-27B POLARIS A-2	-	3.2
UGM-27C POLARIS A-3	57	75.4
POLARIS FLEET Support	-	43.8
AIM-7E SPARROW III	-	1.3
AIM-9D SIDEWINDER 1C-IR	1,280	13.3
AIM-9D SIDEWINDER 1C-SR	300	5.4
AGM-12C BULLPUP 7b	-	.8
AGM-45A SHRIKE	245	6.8
RIM-24B TARTAR	156	14.0
YRIM-66A STANDARD MISSILE (MR)	50	6.6
RIM-2E TERRIER HT	480	36.1
YRIM-67A STANDARD MISSILE (ER)	50	7.0
RIM-8E TALOS	94	19.1
UUM-44A SUBROC	60	23.1
QH-50C DASH	186	47.2
Aerial Targets	-	21.5
Modification of Missiles	-	5.5
Missile Spares & Repair Parts	-	34.6
Missile Industrial Facilities	-	7.4
Astronautics	-	6.0
TOTAL NAVY PROGRAM	2,958	378.1

[redacted]

TABLE 28 - FY 1966 MISSILE PROCUREMENT PROGRAM (Cont'd)
(In Millions of Dollars)

	FY 1966 Program	
	Quantity	Amount
Air Force		
H/LGM-25 TITAN	6	22.0
LGM-30F MINUTEMAN II	178	400.6
AGM-12B BULLPUP Trainer	-	1.2
AGM-45A SHRIKE	1,253	27.2
BQM-34A Firebee Drone	72	6.1
Modifications of Missiles	-	226.4
Missile Spares & Repair Parts	-	45.8
Industrial Facilities	-	10.7
Classified Projects	-	419.5
Propellants	-	1.7
TOTAL AIR FORCE PROGRAM	1,509	1,161.2

[redacted]

TABLE 29 - FY 1966 NAVY SHIPBUILDING AND CONVERSION PROGRAM
(In millions of Dollars)

	FY 1966 Program Quantity	FY 1966 Program Amount
New Construction		
SSN Attack Submarine	4	267.3
Less Advance Procurement Prior Year	-	-31.0
		236.3
SSN Advance Procurement Current Year		28.4
AKA Attack Cargo Ship	1	27.8
AGC Amphibious Force Flagship	1	69.7
LPD Amphibious Transport Dock	1	36.4
LPH Amphibious Assault Ship	1	55.7
LSD Dock Landing Ship	3	103.0
LST Tank Landing Ship	8	201.7
T-FDL Fast Deployment Logistic Ship	4	131.8
DE Escort Ship	10	279.1
PGH Hydrofoil Patrol Ship	2	7.5
PGM Motor Gunboat	10	42.1
MSO Ocean Minesweeper	4	31.7
AD Destroyer Tender	1	59.6
AOE East Combat Support Ship	1	67.5
ATS Salvage Tug	1	10.4
AOR Replenishment Fleet Tanker	2	82.7
AFS Combat Store Ship	1	27.5
AGOR Oceanographic Research Ship	2	11.1
AGS Surveying Ship	1	13.5
AS Submarine Tender	1	57.5
AE Ammunition Ship	2	70.7
Service and other Small Craft	-	21.3
Sub-total New Construction	61	1,673.0
Conversion		
CVA Attack Aircraft Carrier	1	84.3
Less Advance Procurement Prior Year		-14.0
		70.3
DLG Guided Missile Frigate	2	60.3
Less Advance Procurement Prior Year		-6.0
		54.3
DLG Advance Procurement Current Year		12.9
CG Guided Missile Cruiser	1	21.5
DD Destroyer	5	60.0
MSS Special Minesweeper	1	5.7
T-AO Oiler	2	8.4
Sub-total Conversion	12	233.1
Total Program	73	1,906.1

[redacted]

[redacted]

TABLE 30 - SOURCE OF FUNDS FOR THE FY 1966
RDT&E PROGRAM
(In Thousands)

	Total Amount of FY 1966 Program	Funding Available for Financing Program in Part	NOA Requested for Authorization
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION			
Army	$1,464,300	$-26,300	$1,438,000
Navy	1,472,600	-	1,472,600
Air Force	3,176,700	-28,900	3,147,800
Defense Agencies	500,400	-	500,400
TOTAL	$6,614,000	$-55,200	$6,558,800

[redacted]

TABLE 31 FY 1966 - RDT&E, ARMY - PROGRAM
(In Millions)

	FY 1966 Program Amount
Budget Activity 1. MILITARY SCIENCES	
In-House Laboratory Independent Research	12.8
Defense Research Sciences	79.0
Automatic Data Processing Systems	1.9
Intelligence-Electronic Warfare	2.2
Surface Mobility Studies	2.1
Nuclear Investigations	9.0
Studies and Analyses	14.4
Materials	14.9
Human Factors	7.8
Environment	7.2
Bio-Medical Investigations	18.0
Subtotal - Military Sciences	169.3
Budget Activity 2. AIRCRAFT AND RELATED EQUIPMENT	
Light Observation Helicopter	.3
Aircraft Suppressive Fire	2.2
Avionics	4.4
Air Mobility	10.0
Aeronautical Research	5.8
Operational Evaluation, V/STOL	.4
Heavy Lift Helicopter	3.2
Research Helicopter	2.0
New Surveillance Aircraft	7.0
Aircraft Suppressive Fire	4.0
Avionics	6.6
Avionics Systems	5.9
Aircraft Suppressive Fire Systems	14.5
Advanced Aerial Fire Support System	17.3
Aircraft Engines	2.0
Supporting Development Air Mobility	4.0
Tactical Transport Aircraft CV-7a	2.4
Subtotal - Aircraft and Related Equipment	92.0
Budget Activity 3. MISSILES AND RELATED EQUIPMENT	
Multi-System Test Equipment	2.8
PERSHING	11.5
REDEYE	3.5
SERGEANT	2.5
HAWK	11.3

	FY 1966 Program Amount
Budget Activity 3. MISSILES AND RELATED EQUIPMENT (Cont'd)	
Improved Fire Coordination System	.3
Interim Forward Area Air Defense - SP HAWK	1.6
Interim Forward Area Air Defense - CHAPARRAL/Guns	6.4
Missiles	31.6
Surface-to-Air Missile Developments (AADS-70)	15.0
NIKE X	390.0
Forward Area Air Defense (MAULER)	10.0
Division Support Missile LANCE	46.0
Missile Support	1.0
Kwajalein Test Site	28.3
White Sands Missile Range	79.0
Subtotal - Missiles and Related Equipment	640.8
Budget Activity 4. MILITARY ASTRONAUTICS AND RELATED EQUIPMENT	
DOD Communications Satellite Ground Environment	20.4
Subtotal - Military Astronautics and Related Equipment	20.4
Budget Activity 5. SHIPS, SMALL CRAFT, AND RELATED EQUIPMENT	
Marine Craft	1.6
Subtotal - Ships, Small Craft, and Related Equipment	1.6
Budget Activity 6. ORDNANCE, COMBAT VEHICLES, AND RELATED EQUIPMENT	
SHILLELAGH	4.7
Combat Vehicle Weapon System Long Range	3.5
Surface Mobility-Components and Techniques	6.0
Chemical-Biological Weapons	31.8
Firepower other than Missiles	16.0
UC Weapons Program	.3
CB Pilot Plant Processes	3.4
Field Artillery Direct Support Weapon	1.0
Close Support Weapon, Lightweight 155mm	4.3
Infantry Individual and Supporting Weapons	13.0
Tank, Main Battle	21.5
Field Artillery Weapons, Munitions and Equipment	18.3
Heavy Anti-Tank Assault Weapon System (TOW)	17.1
Atomic Munitions	10.8
Power Systems-Converters	13.6
Wheeled Vehicles	2.0
Track and Special Vehicles	2.6
Fortifications, Mines and Obstacles	5.4
CB Weapons	8.7
Subtotal - Ordnance, Combat Vehicles, and Related Equipment	184.0

[redacted]

Budget Activity 7. OTHER EQUIPMENT

	FY 1966 Program Amount
Automatic Data Handling System	1.0
Communications Security Equipment Techniques	1.6
Primary COMINT/ELINT	13.9
Specialized Collection Activities and Systems	2.2
DUCC	6.6
Communications-Electronics	4.9
Identification, Friend or Foe (IFF)	.4
Airborne Surveillance and Target Acquisition	7.0
Ground Surveillance and Target Acquisition	4.0
Electronics-Electronic Devices	17.6
CB Defense	16.7
Mapping-Geodesy	6.2
Combat Support	2.8
Night Vision	4.2
Limited War Laboratory	4.5
Command Control Information Systems (CCIS)	13.0
Night Vision	2.0
CB Detection and Warning	2.4
Identification, Friend or Foe (IFF)	1.0
Communications Developments	10.6
Image Interpretation Photo Processing	2.5
Ground Surveillance and Target Acquisition	5.2
Airborne Surveillance and Target Acquisition	9.1
Intelligence and Electronic Warfare Development	12.2
Strategic Communications	.8
Tactical Communications	10.2
Tactical Applications of Command Control Information System (CCIS)	2.0
Aerial Combat Surveillance System	3.4
Unmanned Aerial Surveillance System	6.0
Ground Based Surveillance Systems	2.7
Nuclear Surveillance - Survey	1.0
Support of Intelligence Operations	1.7
Image Interpretation Photo Process	2.9
Identification, Friend or Foe Equipment	4.1
Supporting Development for Communications	1.7
Electronic Warfare	1.9
Combat Feeding, Clothing and Equipment	4.1
Night Vision Development	2.0
Training Devices	1.0
Mapping-Geodesy	3.1
Nuclear Power Systems	6.5
General Combat Support	11.8
CB Defense	4.2

[redacted]

[redacted]

	FY 1966 Program Amount
Budget Activity 7. OTHER EQUIPMENT (Cont'd)	
Army Electronic Proving Ground	8.0
Testing	48.9
Electromagnetic Compatibility Analysis Center	1.7
Subtotal - Other Equipment	281.3
Budget Activity 8. PROGRAMWIDE MANAGEMENT AND SUPPORT	
Facilities and Installations Support	74.3
International Cooperative Research and Development	.4
Civilian Training Pool	.2
Subtotal - Programwide Management and Support	74.9
Total Program, RDT&E, Army	1,464.3

[redacted]

[redacted]

TABLE 32 FY 1966 - RDT&E, NAVY - PROGRAM
(In Millions)

	FY 1966 Program Amount
Budget Activity 1. MILITARY SCIENCES	
Defense Research Sciences	120.8
In-House Laboratory Independent	16.8
General Surveillance & Navigation	19.5
Life Sciences Technology	1.9
Personnel & Training	2.4
Materials	10.9
Electronic Materials & Techniques	6.6
ARTEMIS	5.0
Center for Naval Analyses	6.7
Center for Naval Analyses (Marine Corps)	.3
Studies and Analyses	9.6
Subtotal - Military Sciences	200.5
Budget Activity 2. AIRCRAFT AND RELATED EQUIPMENT	
AEW CV Based Aircraft E2A	2.4
Drone ASW Helicopter - DASH	1.8
F4B Equipment Improvements	3.9
Tactical Fighter F111B-TFX Aircraft	22.3
Avionics Development (ILAAS)	15.4
Aircraft Systems Improvements	2.7
Target Improvements	6.6
A-7A VAL Aircraft	2.3
Helo Avionics System	7.4
Air ASW Fleet Support	1.8
EA6-B Aircraft	5.0
Airborne Surveillance and Navigation	26.5
Aircraft Communications	2.4
Aircraft, Other Exploratory Development	35.2
Submarine Surface Effects	1.2
Airborne ASW Detection	21.3
V/STOL Development	5.0
Air/Surface Fire Control	4.3
Advanced Aircraft Engines	6.0
Airborne Electronic Warfare Equipment	10.8
Special Warfare Navy Aircraft	6.0
AIMS (ATCRBS/MARK XII)	4.5
Subtotal - Aircraft and Related Equipment	194.8

[redacted]

[redacted]

	FY 1966 Program Amount
Budget Activity 3. MISSILES AND RELATED EQUIPMENT	
Fleet Ballistic Missile System (POLARIS)	114.5
PHOENIX Missile System	71.2
Air-Launched Guided Missile Fleet Support	7.5
Sparrow III Weapons System	2.9
SUBROC	4.0
Anti-Radiation Weapon (SHRIKE)	6.8
SAM Improvement Program	39.6
Guided Missiles Exploratory Development	36.4
Advanced Sea Based Deterrent	5.4
Advanced Anti-Radiation Missile System	5.6
Advanced SAM	12.0
Medium Range Guided Missile	10.0
Point Defense Surface Missile System	3.0
Pacific Missile Range	61.7
Missile Flight Evaluation	.7
Subtotal - Missiles and Related Equipment	381.3
Budget Activity 4. MILITARY ASTRONAUTICS AND RELATED EQUIPMENT	
SPASUR	1.0
Astronautics Exploratory Development	10.6
Satellite Communications	6.4
Satellite Geophysics	6.5
Subtotal - Military Astronautics and Related Equipment	24.5
Budget Activity 5. SHIPS, SMALL CRAFT, AND RELATED EQUIPMENT	
AN/SPS 48 Height Finder	2.5
Sonar SQS-26	13.2
LM 1500 Gas Turbine	.2
OMEGA Navigation System	4.9
Naval Tactical Data System	3.1
Operations Control Center	10.7
Aircraft Launching and Retrieving Fleet Support	7.3
Sonar Fleet Fix Program	15.2
Submarine Safety	5.0
Non Nuclear Propulsion	2.4
Fleet Support Electronics	3.7
Shipboard Surveillance and Navigation	27.5
Command Support	15.4
Jamming and Deception	6.1
Shipboard Countermeasures	8.4

[redacted]

Budget Activity 5. SHIPS, SMALL CRAFT, AND RELATED EQUIPMENT (Cont'd)	FY 1966 Program Amount
Ships, Submarines, Boats	48.5
Hydrofoils	2.1
Reactor Propulsion Plants	19.9
FRISCO	1.0
TRIDENT	4.0
Advanced Mine Countermeasures	3.5
Active Planar Array Sonar	15.4
Advanced Submarine Sonar Development	13.2
Advanced Surface Ship Sonar Developments	4.5
Acoustic Countermeasures	4.5
ASW Torpedo Countermeasures Resistance	5.0
ASW Ship Integrated Combat	1.0
Propulsion Development - Sea Hawk	13.8
Aircraft Launching and Retrieving	4.0
Advanced Command Data	1.0
Mine Surveillance and Destruction System	1.0
ASW Ship Command and Control	4.0
Sub Sonar Developments	3.5
Periscope Detection Radar	1.0
Surface Sonar Developments	3.3
BW/CS Countermeasures	1.5
Radar Surveillance Equipment	.3
Communications Systems	10.2
Naval Ship Advanced Communication System	11.8
Intelligence Systems	7.9
Electronic Warfare System	6.8
Navigation System	2.7
Primary COMINT and ELINT	6.3
Secure Communications	3.2
Subtotal - Ships, Small Craft and Related Equipment	330.5

Budget Activity 6. ORDNANCE, COMBAT VEHICLES, AND RELATED EQUIPMENT	
Underwater Ordnance Fleet Fix Program	10.0
Air Launched Ordnance Fleet Support	5.3
ASROC System	3.1
Torpedo MK 46	8.0
Anti-Tank Weapon ROCKEYE	1.0
WALLEYE	7.1
Marine Corps Operational Weapon and Ordnance Developments	1.0
Weapons and Ordnance	46.9
Marine Corps Ordnance/Combat Vehicles	3.4

Budget Activity	FY 1966 Program Amount
Budget Activity 6. ORDNANCE, COMBAT VEHICLES, AND RELATED EQUIPMENT (Cont'd)	
Advanced Mine Developments	4.0
Sub-Launched Anti-Ship Torpedo	3.0
Advanced Conventional Ordnance	4.3
Mine Warfare Developments	3.2
ASW Rockets	4.1
MK-48 Torpedo EX-10	42.7
Unguided Conventional Air Launched Weapons	3.3
BW/CW Weapons	5.1
Conventional Ordnance Equipment	15.9
Marine Corps Ordnance/Combat Vehicles Systems	8.9
Subtotal - Ordnance, Combat Vehicles and Related Equipment	180.3
Budget Activity 7. OTHER EQUIPMENT	
Short Airfields for Tactical Support (SATS)	1.7
U. S. Marine Corps Tactical Data System	3.0
Marine Corps Operational Electronics Developments	1.3
Marine Corps Operational Logistics Development	.2
Undersea Surveillance	9.3
Shore Based Countermeasures	6.2
Logistics	6.9
Training Equipment	9.5
C/B Weapons Defense	5.9
Other Marine Corps Exploratory Development	5.1
ASW Environmental Prediction	2.7
Deep Submergence Program	17.5
Mobile ASW Target	5.4
Logistics	3.5
Other Marine Corps Systems	6.6
Subtotal - Other Equipment	84.8
Budget Activity 8. PROGRAMWIDE MANAGEMENT AND SUPPORT	
Facilities and Installations Support	57.7
Atlantic Undersea Test and Evaluation Center	7.1
Electromagnetic Compatibility Analysis Center	2.9
International Cooperative R&D	.2
Management and Technal Support (ASW)	8.0
Subtotal - Programwide Management and Support	75.8
Total Program, RDT&E, Navy	1,472.6

[redacted]

TABLE 33 FY 1966 - RDT&E, AIR FORCE - PROGRAM
(In Millions)

	FY 1966 Program Amount
Budget Activity 1. MILITARY SCIENCES	
Defense Research Sciences	89.9
In-House Lab. Independent Research	13.0
CLOUDGAP	1.4
Life Sciences	7.0
Environment	10.5
Materials	22.8
Studies and Analysis	8.4
RAND	15.0
ANSER	1.0
Subtotal - Military Sciences	169.0
Budget Activity 2. AIRCRAFT AND RELATED EQUIPMENT	
SR-71	[redacted]
F-111A	205.0
C-141	2.5
C-5A (CX-HLS)	157.0
Aircraft Flight Dynamics	8.2
Tri-Service V/STOL Developments	7.5
Reconnaissance/Strike Capability	10.0
Low Altitude Guidance	1.0
Lightweight Turbojet	10.0
VTOL Engines Development	30.0
V/STOL Aircraft Technology	8.0
Mach 8 Ramjet	3.5
Supersonic Combustion	4.5
Turbo Accelerator	3.5
Advanced Structures	1.5
Tactical Fighter Avionics	30.5
X-15 Research Aircraft	6.0
Advanced Filaments and Composites	6.0
Close Support Fighter	10.0
Advanced Turbine Engine Generator	3.0
XB-70	25.0
YF-12A Aircraft	23.0
F-12 Aircraft	5.0
Advanced Manned Strategic Aircraft (AMSA)	39.0
J 58 Engine Research and Development	52.2
Aircraft Operational Support	11.7
Aeronautical Systems Engineering Group	24.2
Subtotal - Aircraft and Related Equipment	[redacted]

[redacted]

[redacted]

	FY 1966 Program Amount
Budget Activity 3. MISSILES AND RELATED EQUIPMENT	
TITAN	2.4
MINUTEMAN II	238.0
Advanced Weapons and Application	1.7
Rocket Propulsion - Missiles	27.2
Electromagnetics - Missiles	9.9
Low Altitude Supersonic Vehicle	6.0
Tactical Missile Guidance Development	5.0
Stellar Inertial Guidance	1.4
Advanced ICBM	5.0
Self Aligning Boost and Re-entry Guidance System (SABRE)	15.0
NIKE-ZEUS Targets	8.7
Advanced Ballistic Re-entry Systems (ABRES)	160.0
Short Range Attack Missile (SRAM)	36.8
Eastern Test Range	188.2
Western Test Range	52.3
Subtotal - Missiles and Related Equipment	757.6
Budget Activity 4. MILITARY ASTRONAUTICS AND RELATED EQUIPMENT	
496L SPADATS	7.9
Bioastronautics	5.4
Aerospace Propulsion	31.9
Electromagnetics - Space	14.2
Space Flight Dynamics	11.0
Aerospace Surveillance	26.4
Space Studies	3.0
Large Solid Booster	6.0
Space Test Electric Propulsion	.3
Program 461 - MIDAS	39.5
Vehicle Flight Control	.5
Space Power Unit (SPUR)	1.0
Advanced Solar Turbo Electric Concept (SPUD)	6.0
Advanced Space Guidance	10.0
Advanced Storable Liquid Propellant Rocket	8.0
Chemical Rocket Space Maneuvering	7.0
Laser Radiation Technology (LARIAT)	2.5
GEMINI	2.0
Advanced Re-entry and Precision Recovery	35.0
Manned Orbiting Laboratory (MOL)	150.0
TITAN III Space Booster	76.6
Program 417	8.6
Arnold Engineering Development Center	46.9
Aerospace Corporation	30.0

[redacted]

[redacted]

	FY 1966 Program Amount
Budget Activity 4. MILITARY ASTRONAUTICS AND RELATED EQUIPMENT (Cont'd)	
Environmental Research Support	13.0
Satellite Control Facility	9.8
Special Support Activities	406.6
Titan III X/Agena D	36.0
Subtotal - Military Astronautics and Related Equipment	995.1
Budget Activity 7. OTHER EQUIPMENT	
465L Strategic Air Command and Control System (SACCS)	.8
481L Post Attack Command and Control System (PACCS)	4.6
Over-The-Horizon Radar System	5.0
425L NORAD Combat Operations Center	.4
Tactical Air Control System (TACS)	5.5
492L U.S. STRICOM Command and Control System	1.5
TAC/Air Force STRIKE Automated Command and Control	1.0
Chemical Biological and Conventional Weapons	5.4
Electromagnetics-Other	4.4
Surveillance	28.8
Electronic Devices-Other	16.7
Overland Radar Technology	8.0
Airborne Warning and Control (AWACS)	3.0
Molecular Electronics	3.0
Survivable Command and Control Communications	2.0
Airborne Terminal for Satellite Communications	2.1
Lightweight COIN Radar	.6
Tri-Service Lightweight Tactical Radar	2.4
Conventional Munitions	9.5
Biological Warfare/Chemical Warfare (BW/CS) Program	6.1
Penetration Aids for Tactical Fighters	6.8
Airborne Traffic Control Radar Beacon Systems/ Mark XII IFF (AIMS)	5.3
Other Operational Support	36.9
Chemical/Biological Operational Support	4.0
Test Instrumentation	25.7
Electromagnetic Compatibility Analysis Center (ECAC)	1.9
Lincoln Laboratory	24.8
MITRE	13.0
International Telephone and Telegraph Communication System (ITTCS)	1.9

[redacted]

[redacted]

	FY 1966 Program Amount
Budget Activity 7. OTHER EQUIPMENT (Cont'd)	
466L Primary Communications/Electronic Intelligence	1.9
Secure Communications	1.0
Specialized Collection Activities	17.4
Electronic Data Processing, IDHS	2.8
480L Air Force Communication System	1.5
473L Hq USAF Command and Control System	.2
433L Weather Observation and Forecasting System	1.7
Subtotal - Other Equipment	257.6
Budget Activity 8. PROGRAMWIDE MANAGEMENT AND SUPPORT	
Development, Acquisition and Test Management	93.8
Command Management and Base Operations	126.8
Exploratory Development Laboratory Support	71.6
International Cooperative Research and Development	.4
Subtotal - Programwide Management and Support	292.6
Total Program, RDT&E, Air Force	3,176.7

[redacted]

[redacted]

TABLE 34 FY 1966 - RDT&E, DEFENSE AGENCIES - PROGRAM
(In Millions)

FY 1966 Program Amount

[redacted]

[redacted]